Model X-10
X-Mark® Xeptor®

Smart Multi-Coin And Encoded Token Acceptors

The model **X-10 X-Mark® Xeptor®** is a multi-coin acceptor, which can be field programmed to distinguish and accept any of up to six coins or tokens, including the X-Mark® optically encoded tokens manufactured exclusively by **Osborne Coinage**. Plus the Smart Mark® encoded tokens manufactured exclusively by Roger Williams Mint. Multi-coin acceptance offers the possibilities of mixing promotional tokens with standard tokens, accepting older tokens with new tokens in the process of changeover, or replacing expensive feeder bowl currency with tokens while still accepting either tokens or currency. Its coin release lever with opening coin chute will make coin jams a pain in the past. Its built-in multi-color indicator LED provides operational status and field diagnostic information. Its novel Personality Plug modules ensure plug compatibility in field retrofit applications and its forward thinking smart communication and field programmability options make it ideal for the coming generation of smarter machines.

X-10 PRODUCT FEATURES

- Distinguishes and accepts any of up to six different coins or tokens.
- Reads **X-Mark®** or **Smart Mark®** optically encoded tokens.
- Diameter range: 0.60" to 1.47" (15mm to 37.5mm).
- Up to 15 coins per second of mixed acceptance/rejection.
- Built-in coin release lever and hinged opening coin chute.
- Slide on water resistant access covers with no screws to lose.
- New coin types can be field programmed without extra equipment.
- Multi-color indicator LED for operational status and field diagnostics.
- Advanced serial data communications for configuration and operation.
- Optional diverter control sorts different accepted coin types in real time.
- Optional built-in credit sense optics ensure full coin drop before credit issue.
- Personality Plug connector modules flexibly allow one coin acceptor model to have plug compatibility with all popular newer and older machines.
- **X-Tracked** PC software and handheld security **X-Key** can track **Xeptor®** configuration changes made by logging transaction time, date, and user ID to a secured data file.
- See web site: www.idxinc.com or e-mail us at sales@idxinc.com for more information.

Patent Coverage: U.S.#5,046,841 U.K.#2,227,347 Aus.#619,639 Can.#1,313,806
IDX Inc. 401 W. Main St., El Dorado AR 71730 ☎ 1-800-643-1109, FAX 1-870-862-3472

More About X-Mark®

The X-Mark® is a machine identifiable optical mark minted directly into the surface of a token in a circular band near its periphery. It is also an attractive addition to the visual appearance of a token. The X-Mark® may not be duplicated by simple means of pressing a real X-Mark® token into soft metal or by cutting grooves with a lathe. Because there are over one hundred distinguishable types of X-Mark® tokens for each token diameter, X-Mark® provides greater security from slugging and unwanted cross-play while opening new promotional token marketing opportunities. Osborne Coinage is exclusively licensed under the IDX patents to manufacture and sell X-Mark® tokens. Each X-10 Xeptor® is configured to read three of the possible X-Mark® codes, which allows for use of more than one code at a particular location. Optionally, the X-10 Xeptor® can be configured to detect the presence of Smart Mark® along with two X-Mark® codes.

More About Personality Plugs

Personality Plugs are small connector conversion modules about as big as the last segment of your little finger. With the correct Personality Plug installed in the model X-10 Xeptor®, retrofit installation does not require any machine connector re-wiring! The table below specifies which Personality Plug to use and the pin definitions of the connector.

Personality Plug Model:	PP16	PP16IC	PP40	PP46	PP62	PP3337	PPIGTDC	PPSIGMA	PPUNI	PPCDS
Compatibility Connector	CC-16 JST-6	CC16 DC JST-6	CC-40 JST-6	CC-46 Molex-6	CC-62 Molex-7	CC-33, CC-37 JST-3	CC-32/36 IC-32/36 IGT 960 Molex-6	Sigma Molex-7	Universal JST-6	CDS JST-6
Pin 1	1K to Gnd.	Inhibit	$\overline{\text{Tilt}}$	Inhibit	Ground	24 VDC/AC	Inhibit	Ground	Inhibit	$\overline{\text{Tilt}}$
Pin 2	Sense	Sense	Inhibit	$\overline{\text{Tilt}}$	$\overline{\text{Sense}}$	Sense	$\overline{\text{Sense}}$	Sense	$\overline{\text{Optics}}$	Inhibit
Pin 3	48 VDC/AC	---	$\overline{\text{Credit}}$	$\overline{\text{Credit}}$	$\overline{\text{Tilt}}$	Ground	---	$\overline{\text{Credit B}}$	---	$\overline{\text{Credit}}$
Pin 4	24 VDC/AC	24 VDC/AC	24 VDC/AC	$\overline{\text{Sense}}$	Credit	---	---	$\overline{\text{Credit A}}$	24 VDC/AC	24 VDC/AC
Pin 5	12VDC	12VDC	12VDC	12VDC	Key Pin	---	12VDC	---	---	12VDC
Pin 6	Ground	Ground	Ground	Ground	12VDC	---	Ground	12VDC	Ground	Ground
Pin 7	---	---	---	---	Inhibit	---	---	Inhibit	---	---

More About Coin Sizes

In order for the X-10 to accurately measure the diameter or read an X-Mark® code, the coin must fall through a reasonably centered path in the coin chute. To accommodate centering of coins substantially smaller than 1.47" in diameter, several sizes of "Chute Width Adapters" may optionally be snapped into the side ribs of the fixed coin chute to narrow its width. Furthermore, coins are minted in quite a variety of thickness. In order to get a reliable read on the X-Mark® and the token metal content, the coin chute thickness should be only slightly thicker than the token. A sliding clip on the sidewall of the X-10 is used to alter the "closed position" thickness of the coin chute.

Mechanical Information

The X-10 has the US industry standard mounting dimensions of 3.5" wide, 4.0" tall, and is 1.9" thick. There are three shoulder screw locations on each side for snap-in bracket mounting. The coin path is straight drop on the left side for acceptance while rejected coins are diverted for a right side exit.

Security Information

Normally the X-10 is "unsecured" and may be manually field programmed by anyone. However, once it has been programmed with the X-Key electronic security key connected, it becomes "secured" and in the future may only be programmed if the X-Key again is electrically connected.

IDX INCORPORATED

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PRESS RELEASE

The Olde Philadelphia Mint, Inc. and IDX, Inc. have joined forces with their respective technologies and patents to bring token identification and encoding to the casino gaming market. While the details of their agreement are being held private, company representatives say that their combined token and acceptor manufacturing capabilities will significantly benefit casinos with their added security, ability to tag special promotional tokens, and automation of back room sorting.

For more information contact Ed Levin of The Olde Philadelphia Mint at (610) 789-4848 or James Halsey of IDX at (870) 862-2051.

Update:

In November 1998 Olde Philadelphia Mint, Inc. (OPM) was acquired by Kilmartin Industries (Roger Williams Mint). During this transition, an agreement was reached between IDX Incorporated and Kilmartin Industries where all contracts and licensing agreements held by OPM regarding the Smart Mark® technology was purchased by Kilmartin Industries. Because of this, Kilmartin Industries (Roger Williams Mint) will be able to provide the same technologically advanced Smart Mark® tokens the casino industry has come to rely on.

PRESS RELEASE:

Car Wash Token System Washes Away
Big Problems For The Gaming Industry

IDX Inc. introduced its first optical encoding system for tokens in 1987. IDX, now a major force in today's gaming industry, developed its initial system for the Car Wash market, one of the most demanding applications imaginable. IDX President James Halsey set out to prove his new technology under the toughest possible conditions, planning to go on to become the security standard in industries as diverse as vending, gaming and mass transit.

By licensing Smart Mark®, the first generation technology to casino token manufacturer Olde Philadelphia Mint, IDX established a beachhead for optically encoded casino tokens in Atlantic city.

Using feedback and knowledge gained in New Jersey, IDX developed a second generation of optically encoded tokens known as X-Mark® Multi-Code. Additionally, and very importantly, IDX produced the sophisticated X Series of coin acceptors to read the encoded tokens.

IDX is now in partnership with minting industry leader Osborne Coinage Company, IDX's exclusive X-Mark® licensee. The two companies have successfully established an installed base of 24,000 X-10, X-50 and X-70 Xeptors® as well as over 50,000,000 X-Mark® tokens. Together, the two companies and their products produce the most sophisticated and capable token security system on the market.

Osborne's X-Mark® coins have facets minted into each slot token in a way that provides unmatched optical code reading reliability. The coins with their complex encoding are reading by IDX Xeptors® - optical recognition acceptors – programmed to accept only when the metal, diameter and code are present and absolutely correct. The X-Mark® Multi-Code Security System stops the slugging; shaving and cross-play that are genuine problems for the world's casinos.

For more information, contact James Halsey of IDX at (800) 643-1109 or Joe Saylor of Osborne Coinage at (800) 448-2646.

2 held in A.C. over fake slot tokens

A tool-and-die maker and his friend were using the coins, say police. Tokens for 40 casinos were seized.

By Amy S. Rosenberg
INQUIRER STAFF WRITER

ATLANTIC CITY – When he's not playing the slots, Louis Colavecchio, 54, runs a tool-and-die shop in North Providence, R.I. By all accounts, he is pretty good at his trade.

So Good, in fact, that Colavecchio was able to manufacture counterfeit slot machine tokens for every major casino in the country, according to state police and gaming enforcement officials.

Shortly before midnight Saturday night, inside Caesars Atlantic City Hotel-Casino, Colavecchio and a companion, Donna Ulrich, 45, also of North Providence, were arrested as they deposited fake tokens into slot machines, state police said.

Inside their care, police said, officers found $49,000 worth of counterfeit tokens for eight Atlantic City casinos, in $5, $10 and $100 denominations, and a loaded .22-caliber handgun.

Back home at the tool-and-die ship, federal investigators found dies for tokens for more than 40 casinos, including every casino in Atlantic City, two in Connecticut and about 25 in Las Vegas. The dies were locked inside a safe.

"If these allegations are true, this is one of the largest counterfeit schemes in the history of New Jersey gaming," New Jersey Attorney General Peter Verniero said yesterday.

Investigators say they have been tracking Colavecchio's and Ulrich's movements for months. The arrests stem from a larger investigation that began eight months ago and focused on the use of counterfeit slot tokens and chips at New Jersey casinos.

"It was known when they were in Atlantic City." State police spokesman John Hagerty said. "They were closely watched, and their activities were allowed to go on to develop information to arrest and charge."

Despite the volume of tokens seized. Hagerty said he did not believe the counterfeit tokens yielded any significant winnings for the couple or anyone else.

"There has not been a large financial impact to any New Jersey casino as a result of this scam," Hagerty said. "State police have been closely watching. At no time were the individuals allowed to utilize a lot of the tokens."

Still, Hagerty said, the quality of the counterfeit tokens was extremely high. An untrained eye would not be able to distinguish the real ones from the fake ones.

"They really look like slot tokens from casinos in the three major jurisdictions in the United States," he said.

After the arrests, authorities said, agents from the U.S. Secret Service searched the safe at Colavecchio's Rhode Island business – Diamonds in Design Ltd., Precision Molds, and Models & Dies – and discovered dies to manufacture exact replicas of tokens for more than 40 casinos in three states. The agents also found computer records and invoices used in the alleged counterfeit operation.

"They have a die for every single casino in Atlantic City, the two Indian casinos in Connecticut, and 25 or so Las Vegas casinos, " said Keith Furlong, a spokesman for the state Division of Gaming Enforcement. "The Mohegan Sun just opened, and they already have the die from there. This tool-and-die company could have been making all their money with this scheme."

Hagerty said an accounting process was under way to determine how many of the fraudulent tokens were used in the various casinos. Nevada and Connecticut authorities have been alerted.

Frank Catania, the director of the division of Gaming Enforcement, said his division would conduct a thorough review of all slot tokens utilized in Atlantic City" to determine the scope of the fraud.

Hagerty said that other individuals were being investigated and that additional arrest were possible.

Colavecchio and Ulrich are being held at the Atlantic County Jail, in Mays Landing. Bail was set at $100,000 each. They were charged with second-degree theft by deception, possession of a handgun, conspiracy, possession of forged devices and slot cheating.

Two charged with making

ATLANTIC CITY, NJ–A tool-and-die shop owner who is accused of making fake $1 slot machine tokens that could be used in casinos in three states was arrested while using some here, authorities alleged Thursday.

It is the biggest counter-feinting case in the 18-year history of legalized gambling in New Jersey, authorities said Thursday.

Louis Colavecchio, 54, of North Providence, R.I. and live-in companion Donna M. Ulrich, 45, were caught playing with what appeared to be counterfeit tokens at Caesar's Atlantic city Hotel Casino, police said.

Colavecchio and Ulrich were each charged with theft by deception, possession of a handgun, conspiracy, possession of forged devices and slot cheating. They were

being held in the Atlantic County Jail under $100,000 bail.

A search of Colavecchio's car led to the recovery of counterfeit tokens worth about $49,000 and a .22-caliber handgun, State Police spokesman John Hagerty said.

Secret Service agents searching his business, Diamonds in Design, Ltd. Of North Providence, found a locked safe that contained 40 dies for casting slot tokens that

Counterfeit $1 tokens in N.J.

Could be passed in all the Atlantic City casinos and several Las Vegas casinos. Diamonds in Design specializes in precision molds, models and dies. The fakes were nothing if not precise, Hagerty said. "These tokens were extremely good," he said. "This is the most significant counterfeit scheme that I, in my 19 years of casino regulation, have ever encountered," said Thomas Auriemma, deputy director of the

State Division of Gaming Enforcement.

He refused to say how much the couple made; how much the casinos lost, or how many other people have been involved, citing an ongoing investigation involving authorities in Nevada, New Jersey and Connecticut.

"Investigators for the three states are attempting to answer that very question. What was the extent of this? Who were the other parties

Involved? There is every reason to believe others are involved", Hagerty said.

It was not clear when the false tokens were first used in casinos, he said.

The two had been identified six months ago as counterfeit suspects and were seen Saturday by State Police assigned to the division of Gaming Enforcement.

1/3/97
Las Vegas Review-Journal

Mis-Token

The two forgers taken into custody earlier this month in Atlantic City charged with counterfeiting slot tokens have been busy.

Officials at Foxwoods and the Mohegan Sun have found more than $50,000 in fake slot tokens since the arrest of the suspects, who hail from nearby Providence, Rhode Island.

After seizing tokens and dies found in the suspects' car, the Secret Service discovered more than 40 dies for tokens from casinos across the country. The work is so good, it takes a microscope to tell the difference between the forgeries and official tokens.

All Atlantic City casinos and many Las Vegas gaming halls were also examining their slot inventory.

Reprint from NATIONAL GAMING SUMMARY 1/27/

Models X-10 And X-50
Coin Learn & Field Test Procedure
Revised 11/00

COIN LEARN PROCEDURE

1. Slide the front cover up and identify the three controls to be used in this procedure:
    *   The "test" push button near center bottom. (used to input the number of credit pulses)
    *   16 position rotary switch to the right of the push-button. (#0 is normal RUN position, #1-#6 are for learning each of 6 possible coin types that can be accepted)
    *   LED indicator half way up on the right side. (Green in RUN mode, red in LEARN mode)
2. Turn the rotary switch to one of the LEARN positions #1-#6 (for example, pick #3 for learning the 3rd coin type) and observe the LED turns red to indicate it is now ready to learn.
3. Push the test button once for each credit pulse you wish to have issued for this coin. For applications using a single denomination, on credit pulse is typical. For multi-denominational applications, they may be different. For example, a $1 coin would require 4 credit pulses if you are also accepting $0.25 coins for one credit pulse.
4. Slide the cover back on the unit to make sure outside light does not interfere with the sensors.
5. Show the unit 6 samples of the coin by depositing them into the acceptor as usual. It is best to use 6 different coins since there are typically slight variations from coin-to-coin.
6   After the 6th sample coin is deposited, the LED will flash red-green a few times to indicate the LEARN procedure is complete and the coin parameters are stored in memory.
7. Slide the front cover open again and turn the rotary switch back to position #0 and observe the LED turning green. Check that you have not accidentally turned it too far to position #15, which is a field test function position, in which it will not accept coins.
8. Slide the front cover back down and you should now be able to accept the new coin.

COIN DE-LEARN PROCEDURE

1. Slide the front cover up and turn the rotary switch to the coin # position you wish to DE-LEARN.
2. Push the test button once to initiate the LEARN sequence.
3. Turn the rotary switch back to position #0 without depositing any coins to signal the unit that you wish it to erase the parameters for this coin. The LED will flash red-green to indicate completion.
4. Slide the front cover back down.

FIELD TESTS & DIAGNOSTICS

Normal operation in switch position #0 is shown by a green LED. If the LED is flashing yellow or alternately red-green, it indicates a malfunction has been detected. Some malfunctions can be corrected in the field. See below.

GATE RELAY TEST (rotary switch #0)
Press the test button to activate the gate relay. If not normal, it may be physically obstructed or its wire unplugged.

MEMORY TEST (rotary switch #7)
Turn the rotary switch to positions #7 to test the validity of memory. Normal LED color is green. A red color indicates that memory is corrupted. It may be possible to correct this by re-learning the coins. If not, the memory chip is bad.

CREDIT SENSOR TEST (rotary switch #8)
Turn the rotary switch to positions #8 to test the Credit Sensors (V2.0 chip and after). If not installed the LED will blink yellow, if installed and in good order it will be green, if installed and dirty or blocked, an orange to red color.

X-MARK® CODE OPTICS SENSOR CALIBRATION (rotary switch #9, #A)
Fold a piece of white paper twice (to 4 thickness) and insert it into the center of the coin chute. Turn the rotary switch to position #9 (rear side optics) and press the test button. The unit will use information gathered to calibrate the sensitivity of its reflective sensors for reading the X-Mark optical code on tokens. The LED should be an orange color after calibration. Repeat for switch position #A (front side optics).

DIAMETER OPTICS SENSOR TESTS (rotary switch #B, #C, #D)
Turn the rotary switch to positions #B, #C, and #D to test the diameter thru-beam optical sensors. Normal LED color is green. A red or orange color indicated either there is an object or dirt blocking one of these three sensors and cleaning of the coin chute is required, or the circuit is malfunctioning.

INDUCTIVE METAL SENSOR TESTS (rotary switch #E, #F)
Turn the rotary switch to positions #E and #F to test the inductive sensor. Normal LED color is green. A red color indicates either there is metal in front of the inductive sensors or the circuit is malfunctioning.

Model X-10
X-Mark® Xeptor®
Field Test Procedure

INTRODUCTION

On power up reset, the Model X-10 Xeptor® performs a series of self-tests. If it passes all test, the indicator LED turns green and normal operation commences if any of the self-tests failed, the indicator LED flashes red/green twice a second and no coins will be accepted. The Model X-10 Xeptor® was designed with built in field test and diagnostic capability to aid in trouble shooting problems away from the test bench. Specific field test functions are invoked by accessing rotary switch SW2 in the lower right corner of the circuit board and selecting positions 7, 8, 9, A, B, C, D, or F. The below descriptions of each field test function additionally include expected oscilloscope waveforms in the event of a test bench environment in order to return the Xeptor® to normal operation, it is imperative that the SW2 be returned to position 0.

TEST #7

Test #7 performs a checksum of the X-10 memory, both the program ROM and the non-volatile operating parameter EEPROM. The LED will be green if the test is passed and will flash red/green twice a second if the test fails. Unless one of the chips has physically failed, the failure may likely have been caused by power interruption in the middle of writing parameters to the EEPROM after a learn cycle or a download of parameters over the serial communication port. To clear this problem simply repeat the parameter download procedure or press the button adjacent to the rotary switch to repair the checksum and re-learn any coin types not being correctly accepted.

TEST #8

Test #8 performs a check on the coin passage reflective sensors just above and below the gate relay rake, which verify actual coin passage in the proper direction. When operating properly, the LED will be green when there is no token presented to either sensor, and red when a token is presented to either of the sensors. Testing should include presenting a token to the top and bottom sensors individually to confirm them individually.

Bottom Detect, Top No Detect
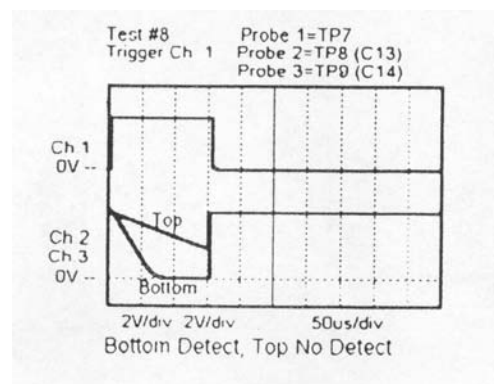
TEST #9, AND #A: X-MARK® OPTICS TEST

Tests #9, and #A perform a check on the ability of the X-10 to correctly read an X-Mark® on a token. Test #9 checks the X-Mark® reading optics on the backside while test #A checks the X-Mark® reading optics on the front side. When operating properly, the LED will be green when there is no X-Mark® detected and red when an X-Mark® is presented and detected. There are two X-Mark® detectors on each side of the coin chute and detection by either one of them will cause the LED to turn red.

Front Side, Mark A, Not Mark B

Back Side, Mark B, Not Mark A
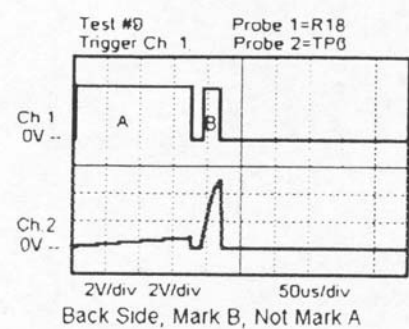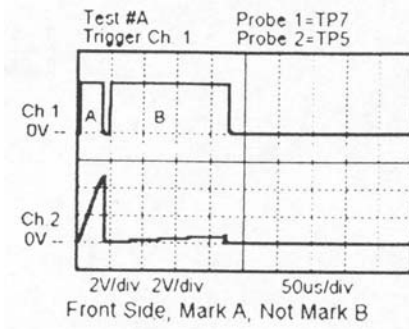
TESTS #B, #C, AND #D: DIAMETER OPTICS TEST

Tests #B, #C and #D perform beam strength tests on the three optical thru-beam sensors used to measure coin diameter. Test #B checks the bottom beams, about 1.6" from the coin chute top. Test #C checks the middle beams, about 1.3" from the coin chute top. Test #D checks the top beam, about 0.4" from the coin chute top. When operating properly, the LED will be green when the beams are not blocked and red when they are blocked or otherwise non-functional.

Typical For LED = Green

Typical For LED = Red
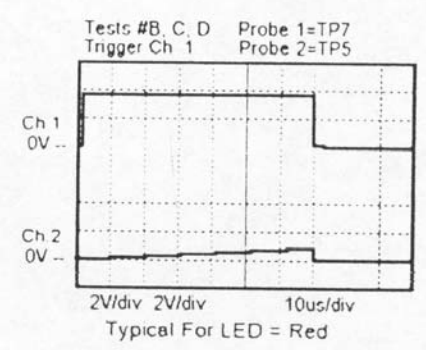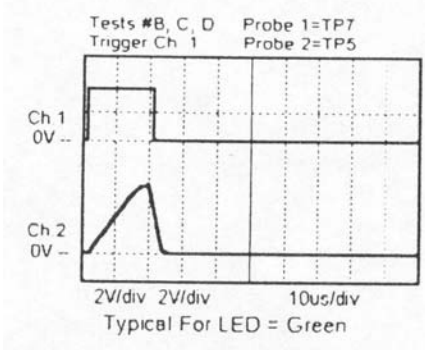
TESTS #E AND #F: INDUCTIVE COIL TEST

Tests #F and #E perform a check on the inductive coils operated in both series aiding and series opposing modes. When operating properly, the LED will be green with no coin between the sensor coils, and red with an inductively loss coin between the sensor coils. If no coin is present and the flat cable to the rear box is disconnected or the circuit is otherwise non-functional, the LED may flash red/green twice per second or turn red.
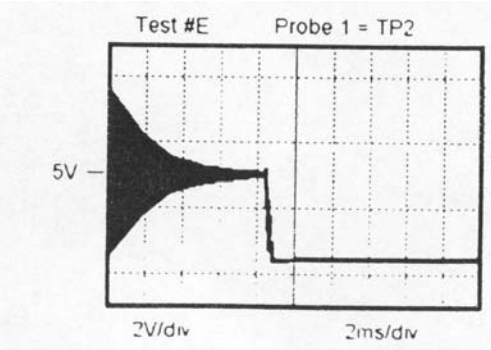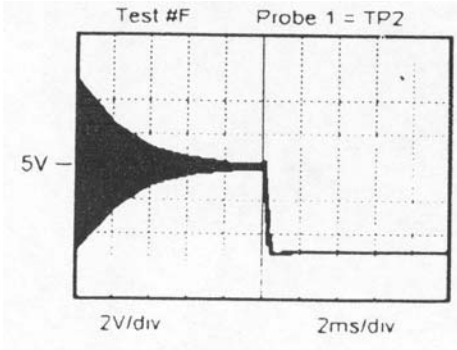
Model X-10
Diameter & Thickness Setup
For X-10 Multi-Coin And Encoded Token Acceptors - Rev 06/01

IDX INC

INTRODUCTION (… OR… WHY IS THIS IMPORTANT?)

The X-10 Xeptor® significantly raises the ability to measure and discriminate between coins through precision optical diameter measurement sensors, edge and center of coin metal alloy measurement, and X-Mark® optical sensors to read minted-in codes on the surface of the coin. To benefit from these new measurement capabilities we must also do a little better in coin position control than formerly required when only metal alloy was being measured. One cannot expect imprecise coin position control to allow precise and repeatable measurement of the coin properties any more than one could expect an accurate measurement of the length of a fish if you won't put the ruler up against the fish.

THICKNESS SETUP

Figure 1 of the X-10 Xeptor® is a side view showing a series of eight holes and a sliding adjustment with a detent that centers itself over one of the selected holes. The dimensions referring to each of the eight holes is the chute thickness achieved at each position of the sliding adjustment. A good rule of thumb would be to set the adjustment for .010" to .020" more than the thickest coin in the intended coin set.

H pos. or #7 set.. =.130"
G pos. or #6 set. = .123"
F pos. or #3 set. = .116"
E pos. or #2 set. = .110"
D pos. or #5 set. = .103"
C pos. or #1 set. = .097"
B pos. or #4 set. = .092"
A pos. or #0 set. = .087"

Sliding Adjustment
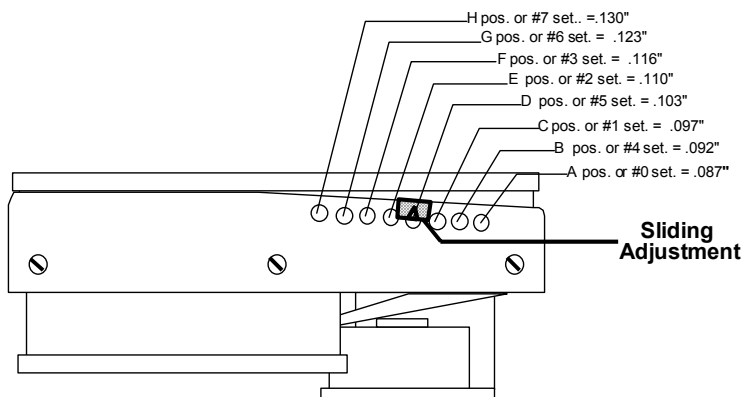
EXAMPLE THICKNESS & SETTING

Coin Type	Thick	Setting
.984 token	.062	A or #0
US $.05	.078	B or #4
US $.25	.067	A or #0
US $.50	.083	C or #1
US/Can $1	.078	C or #1
Can $2	.067	A or #0
$1, $2 token	.100	F or #3
Aus $1	.103	F or #3
Aus $2	.112	H or #7
Brit 1£	.122	H or #7

DIAMETER SETUP

To control coin centering over the optical and inductive sensors, install the appropriate pair of clip-on coin chute edge guides as shown. The resultant coin chute width should be no more that about .060" wider than the coin if it has X-Mark® codes. Without X-Mark® codes, it may be as much as .23" wider. A single drop of silicone adhesive is recommended on each to ensure they are not accidentally knocked out.

Spacer No	Max. Coin Diameter	Spacer Width
none	1.475	--
-1	1.355	0.062
-2	1.255	0.112
-3	1.130	0.175
-7	1.110	0.190
-4	1.003	0.240
-5	0.915	0.280
-6	0.875	0.300

Snap In Spacers
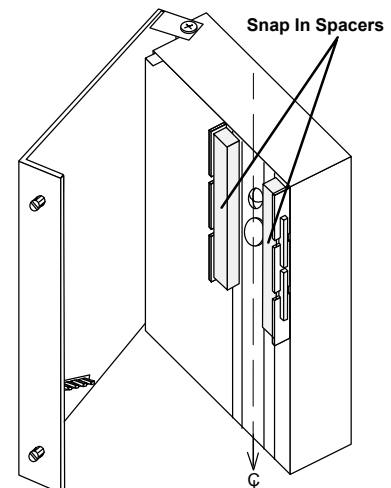
Model X-20, X-22
X-Metal™ Xeptors®

Multi-Metal Xeptors®

X-20 & X-22 XEPTOR COIN THICKNESS SETUP
Rev. 04/02/02

General Principles

- The highest performance metal discrimination can be done when the inductive sensors are the closest possible to the coin where their sensing resolution is the greatest.
- Conversely, having the coin chute too tight may result in coin jams from slightly bent coins or coins that have some minor protrusion from the surface making it a bit thicker than usual.
- As a general rule, one should set the coin chute thickness for about .020" thicker than the coin if setting for one size coin. But if setting for a group of coins, then set the chute thickness .010 larger than the thickest coin in the group.
- The X-20 handles a coin from 0.650" to 1.100" in diameter.
- The X-22 handles a coin from 1.00" to 1.475" in diameter.

Currency	Dia. x Thick
US $.05	0.935 x 0.076
US $.10	0.705 x 0.053
US $.25	0.955 x 0.067
US $.50	1.205 x 0.083
US $1.00	1.043 x 0.079
Can $.05	0.935 x 0.069
Can $.10	0.710 x 0.047
Can $.25	0.938 x 0.062
Can $.50	1.068 x 0.075
Can $1.00	1.043 x 0.077
Can $2.00	1.102 x 0.071

Token	Diam x Thick
US $0.50	1.240 x 0.080
US $1.00	1.465 x 0.100
US $2.00	1.340 x 0.100
Can $1.00	1.125 x 0.100
Can $2.00	1.240 x 0.100
Can $5.00	1.465 x 0.100

As a general rule, select a position for the sliding adjustment that gives at least 0.020" extra coin chute thickness for a single coin or .010 larger than the thickest coin, if setting for a group of coins.

H pos. or #7 set.. =.130"
G pos. or #6 set. = .123"
F pos. or #3 set. = .116"
E pos. or #2 set. = .110"
D pos. or #5 set. = .103"
C pos. or #1 set. = .097"
B pos. or #4 set. = .092"
A pos. or #0 set. = .087"

Sliding Adjustment

1. Select the proper thickness for your coin size from the tables.
2. Move the sliding adjustment to adjust the coin chute thickness.
3. A bent tip needle nose pliers may be helpful in the adjustment.

Example 1: US Quarter Only In The X-20
The US quarter is .067" thick. Highest performance would be at adjustment position A.

Example 2: All US & Canadian Currency 1.10" Or Smaller In The X-20
The thickest of these coins is the US nickel at .076 and the thinnest is the Canadian dime at .048". Position B at .092" is recommended as the best compromise for these coins.

Example 3: US $.50 Coin, $1 Token, $2 Token In The X-22
Position F at .116" is recommended as the best compromise for these coins.

IDX Inc. 401 W. Main St., El Dorado AR 71730 ☎1-800-643-1109, FAX 1-870-862-3472
Patent Coverage: U.S. #6112876 Other Patents Pending

Xeptor®
Serial Port Cable Rev 12/99
For X-10 And X-50 Multi-Coin And Encoded Token Acceptors

Manufactured Cable: X10199-1

IDX produces the economical X10199-1 six-foot long cable with a PC compatible DB-9 serial port connector on one end and an X-10 and X-50 compatible JST-3 connector on the other end. The cable is produced with strain-relieved ends to ensure a long life of plug cycles. Contact the factory at 1-800-643-1109.

Field Produced Cable

For those desiring to build their own cable, the specifications for successful construction are detailed below.

The X-10 and X-50 Xeptors® implement a very basic three wire RS-232 interface including only Txd, Rxd and Ground as indicated in the diagram below. The negative going voltage for the TxD line is derived from the negative going voltage on the RxD line (computer's TxD line) and thus will meet true RS-232 specifications if the RxD line meets true RS-232 specifications.

While you may find that some connectors from other manufacturers with .1" spaced pins may work satisfactorily, there are two preferred cable connectors for mating with the Xeptors 3-pin JST style RS-232 port connector listed below. They are distributed by Kensington Electronics: (714) 588-0575 and Interconnect Specialties: (714) 674-5090.

1. JST **#XHP-3** with **SXH-001T-PO.6** crimp contacts
2. JST **#03NR-E4K** for AWG #24 Insulation displacement type

1. TxD - Red Wire
2. RxD - Green Wire
3. Gnd - Black Wire
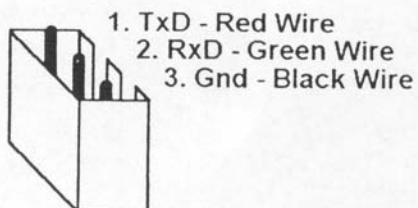
X-10 Connector Pin Assignment

Function	Color	DB-9	DB-25
Transmit	Red	Pin 2	Pin 3
Receive	Green	Pin 3	Pin 2
Ground	Black	Pin 5	Pin 7

IDX INC

DATE: July 28, 1997

SUBJECT: Grounding

A RS232 cable can be provided to connect the X10 RS232 port to any standard PC RS232 port configured as 9600 baud, 8 data bits, 1 stop bit, and no parity.

It is also recommended that a RS232 optical isolator be used, to isolate the computer ground from the slot machines internal ground. This is a must with some IGT machine as IGT's 24VAC common to be connected to a common ground plane. If a RS232 optical isolator is not available it will suffice, but not recommended as a permanent solution, to isolate the slot machine input power ground.

Please phone if I can be of any assistance.

JHH

Model X-50 Rev. 04/01
X-Mark® Xeptor®
Smart Multi-Coin And Encoded Token Acceptors

The model X-50 X-Mark® Xeptor® is a multi-coin acceptor, which can be field, programmed to distinguish and accept any of up to six coins or tokens, including the X-Mark® optically encoded tokens manufactured exclusively by Osborne Coinage. Plus the Smart Mark® encoded tokens manufactured exclusively by Roger Williams Mint. Multi-coin acceptance offers the possibilities of mixing promotional tokens with standard tokens, accepting older tokens with new tokens in the process of change over, or replacing expensive feeder bowl currency with tokens while still accepting either tokens or currency. With a coin release lever that can open the coin chute will make coin jams a pain in the past. Its built-in multi-color indicator LED provides operational status and field diagnostic information. Its novel Personality Plug modules ensure plug compatibility in field retrofit applications and its forward thinking smart communication and field programmability options make it ideal for the coming generation of smarter machines.

X-50 PRODUCT FEATURES   (PREVIEW ON 3/98)

❖ Reverse style high denomination coin path.
❖ Distinguishes and accepts any of up to six different coins or tokens.
❖ Reads and validates multiple X-Mark® encoded tokens.
❖ Reads and validates Smart Mark® encoded tokens.
❖ Diameter range: 1.340" to 1.875" (34mm to 48mm).
❖ Coin releasing/opening coin chute
❖ New coin types can be learned or programmed in the field.
❖ Multi-color indicator LED for operational status and field diagnostics.
❖ Electrical interface options include Digital Multi-Coin, Serial Multi-Coin, IGT Netplex and
   plug compatibility with the older CC-series of acceptors via Personality Plug modules.
❖ Personality Plugs allows plug compatibility with models CC-16, 33, 40, 46, 62, IC-xx and MC-xx.
❖ Log the transaction time, date, and user ID with a PC based X-Tracker security program.
❖ Multi-denominational diverter control output works with existing feeder bowl diverter in
   multi-valued coin/token applications.

Model X-50
X-Mark® Xeptor®
Diameter & Thickness Setup
Rev. 3/98

INTRODUCTION

In order for the X-50 Xeptor® to maintain high performance and accommodate the wide range of coin diameters and thickness in the market, it has been designed to incorporate a means for field adjusting the coin chute width and thickness to optimize performance for your particular coin.

In order to properly read the X-Mark® optical code or to properly measure the inductive signature of the center of a coin, it is imperative that the coin be reasonably centered in the coin chute so that optical code facets are oriented correctly and repeatable for the optical code sensors and so that the center of the coin passes repeatable over on the inductive sensors. The X-50 Xeptor® has field adjustable coin chute width to accurately guide the coin through the acceptor.

Furthermore, to get a good repeatable read of the optical code and the most discriminating inductive signature measurement, it is imperative that the sensors on each side of the coin chute be as close as possible to the coin. A thin coin in a wide chute produces weaker signals with more variation. The X-50 Xeptor® has a built in adjustment to control coin chute thickness.

THICKNESS SETUP

Figure 1 of the X-50 Xeptor® is a side view showing a series of three holes and a sliding adjustment with a detent that centers itself over one of the selected holes. The dimensions referring to each of the eight holes is the chute thickness achieved at each position of the sliding adjustment. A good rule of thumb would be to set the adjustment for about 0.010" more than the thickest coin in the intended coin set.
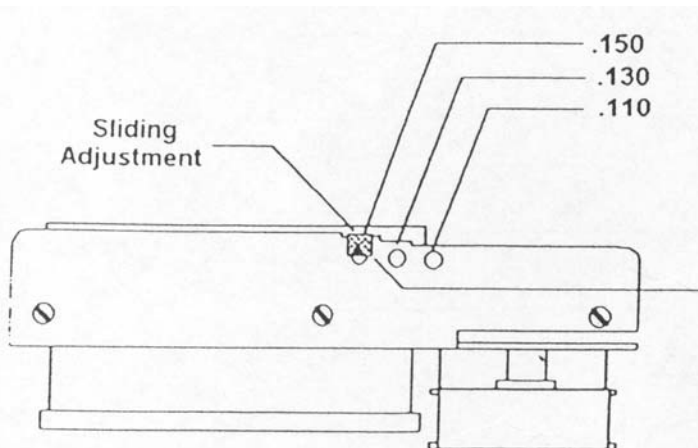
Figure 1. Coin chute thickness adjustment.

TYPICAL CASINO TOKENS

VALUE	THICK	SET TO
$1 Token	.100	.110
$2 Token	.100	.110
$5 Token	.122	.130
$10 Token	.136	.150
$25 Token	.100	.110
$50 Token	.115	.130
$100 Token	.080	.110
$500 Token	.089	.110

DIAMETER SETUP

The X-50 Xeptor® has field adjustable sliding coin chute width guides with three primary positions; two of which are shown in figures 2 and 3. To move the coin chute width guides, loosen the fastening nuts with a ¼" nut driver, slide them to the desired position, then tighten the nuts. Choose the width for compatibility with the intended coin set as specified in the tables below. Note that there are three scallop like indents for the mounting studs to align with on each of the mounting tabs of the chute width guides. Testing a sample coin in the unit prior to installation is recommended to ensure proper sizing.
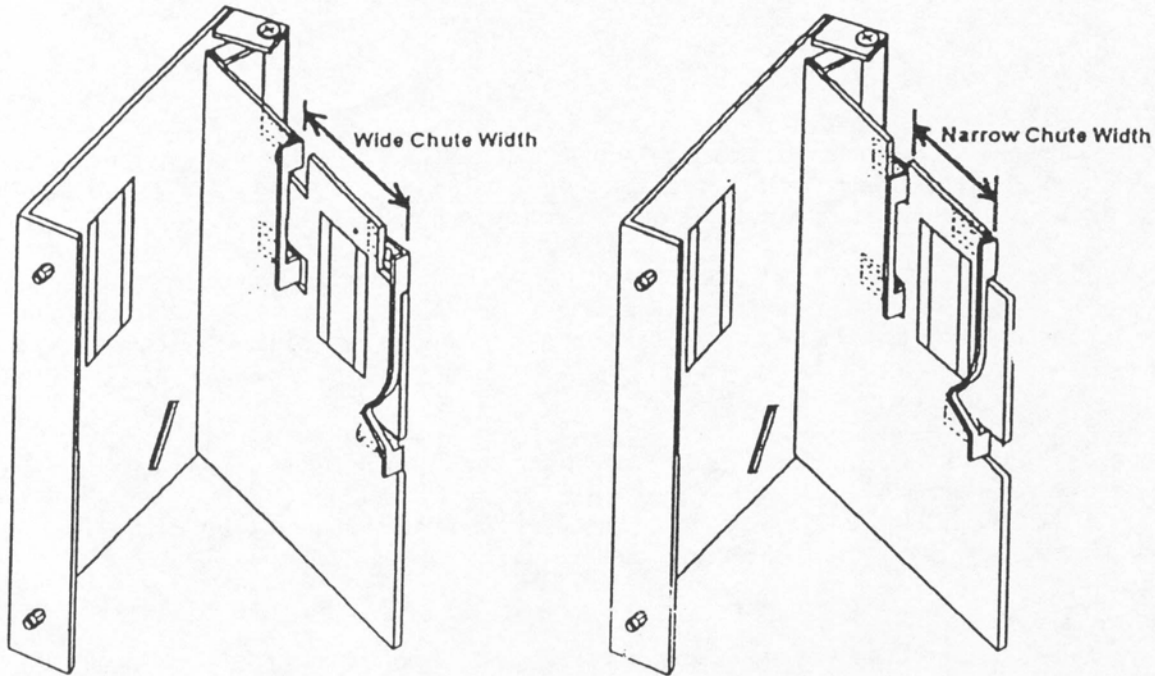
Figure 2. Opened X-50 Xeptors showing wide and narrow chute adjustments.

TYPICAL CASINO TOKENS

VALUE	DIAMETER	SET TO
$1 Token	1.465	Narrow
$2 Token	1.340	Narrow
$5 Token	1.755	Wide
$10 Token	1.700	Medium or Wide
$25 Token	1.65/1.875	Medium/Wide
$50 Token	1.800	Wide
$100 Token	1.600	Medium
$500 Token	1.550	Narrow or Medium

EDGE GUIDE POSITION	COIN CHUTE WIDTH	MAX. COIN DIAMETER	MIN. COIN DIAMETER
Narrow	1.575	1.550	1.340
Medium	1.725	1.700	1.550
Wide	1.900	1.875	1.700

Xeptor® V3.0
Serial Port Protocol Rev. 02/01
For X-10 And X-50 Multi-Coin And Encoded
Token Acceptors

INTRODUCTION

IDX Xeptor® Models X-10 and X-50, using Rev. 3.0 or higher firmware, support both and ASCII hexadecimal based RS-232 compatible protocol for use humans with a "terminal emulator", such as Procomm or Hyper term, and a binary based protocol for use in communication with other computing devices such as slot machines and tracking systems. Port parameters are 9600, N, 8, 1 and the protocol rules for each are as follows:

BINARY PROTOCOL

1. This is the default communication mode at reset/power up.
2. Commands consist of a command identifier byte, possible data bytes, and a terminating checksum byte, which is a simple sum of the preceding bytes. Some commands have response data bytes, which will then also include a checksum byte.
3. If the command identifier byte is recognized, it and the data bytes will be echoed. The response to the checksum byte will be either an ACK (acknowledge = $06 + "♠") or a NAK (not-acknowledge = $15 = "§"), depending on the match of the checksum transmitted to the checksum computed on the previous bytes. In the case of NAK, the command is ignored.
4. If the command identifier byte is **not** recognized, a NAK response will be generated (instead of an echo), no data will be accepted, and the receive buffers will be reset.
5. While byte echoes are handled immediately, the commands are processed in the background (except for inhibit which is processed immediately) as coin sensing and handling activities take precedence when coins are present. This may cause a response delay for the final ACK or NAK of up to 50ms per coin, multiplied by the number of back-to-back coins inserted.
6. Until there is a final response from the prior command, a new command should not be initiated as it will be ignored if completed before the response of the current command, or if either command has a NAK response, one or both of the commands may produce indeterminable results.
7. A test program called XEPTOR.EXE is available from IDX for interface developers so that the binary interface can be manually exercised while taking hexadecimal keyboard input and displaying to the screen using hexadecimal data format.

ASCII HEXADECIMAL PROTOCOL

1. This is **not** the default communication mode at power up. (see H command)
2. All bytes are echoed and a CR-LF terminates all responses.
3. There is no checksum byte at the end of each command.
4. Some nice ASCII text may additionally be part of ASCII Hex mode responses.

TABLE 1. COMMANDS FOR BOTH BINARY AND ASCII HEX MODES.

Command	Response	Description
B		Binary mode. (power up default)
E	$d_0 \ldots d_3$	Enable request for parameter programming access (if secured). Unit responds with $d_0 d_1$ I.D.# and $d_2 d_3$ seed number for generating the security "key" value sent back with the K command.
H		ASCII Hex mode. (Binary is power up default, type HH to change mode.)
I		Inhibit input = logic 1
i		Inhibit input = logic 0
Cntrl-I		Instant inhibit. (use "i" or "I" command to return to normal operation)
$Kd_0 \ldots d_9$	d_{10}	Key response (to E command): key-lo, key-hi, time, date-lo, date-hi, progID-lo, progID-hi, userID-lo, userID-hi: response 00-Ok / FF=bad.
k		Key enable timer refresh for another 5 seconds before auto disable.
$Md_0 d_1$		Modify Memory: location, value
md_0	d_1	Memory peak: location: value
O		Out of service for 340ms. Disables acceptance to prevent automatic coin reporting that might occur during critical parameter downloads.
$Pd_0 \ldots d_3$		Pulse timer in ms: credit/sense, diverter, diverter delay, tilt(1/3sec)
R	Hex Only	Report system configuration including coin memory, optical and inductive sensor values, pulse times, and option configuration. Hex mode only.
r	$d_0 d_1$	Report diagnostic health: failure, maintenance
S		Save current configuration, required to save new values to EE² memory.
sd_0		Set SysConfig byte: SysConfig
V	$d_0 d_1$	Version of firmware identification: model (X), revision(30)
=	d….	Repeat last response

Bit#	Diagnostic Failure Byte	Preventative Maint. Byte	SysConfig Byte
0	Credit optics blocked	Credit optics marginal	Dwell between credit pulses
1	Size optics blocked	Size optics marginal	-----------
2	Inductive sensor malfunction	X-Mark optics marginal	-----------
3	Coin stuck at inductive sensor	---------	Inhibit Line, 1=high, 0=low
4	Checksum in program bad	Rotary switch not a pos. 0	X-Mark Threshold, 1=high
5	Checksum in EE memory bad	Xeptor inhibited	X-Mark Lead/Trail, 1=both
6	Slow coin (transient reporting)	Excess ambient light	Tighter Metal Tolerance =1
7	Reverse coin (transient reporting)	Bad coin count high	Coin Data Secured, 1=yes

MODEL X-10 SERIAL PORT INTERFACE

Xeptors® implement a very basic three wire RS-232 interface. The negative going voltage for the TxD line is derived from the negative going voltage on the RxD line and thus will meet true RS-232 specifications if the RxD line meets true RS-232 specifications.

1. TxD
2. RxD
3. Gnd
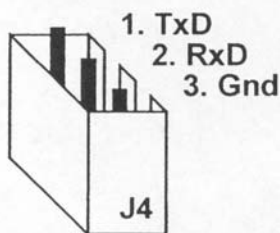
Board Connector: JST B3B-XH-A
Cable Connector: JST XHP-3
Crimp Contacts: SXH-001T-P0.6

J4

Manual Serial Port Command Examples For IDX Xeptors®

The examples commands below assume that a connection has been successfully established through a PC serial port using a terminal emulator program as described in the introduction paragraph of the **Xeptor® V3.0 Port Protocol** document. Please refer to the second page of this same document for more information about the example commands used below.

Configure for Humanly Hexadecimal Interface

The normal communication mode for Xeptors® uses binary data, which is not very readable by people. The alternative mode, ASCII Hexadecimal is human readable. Enter the command "**HH**" (not including quotation marks) to enter this mode.   In this mode, binary data bytes are represented by a pair of ASCII Hexadecimal characters with values 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F, where A-F represent values 10-15 respectively.

View The Report Screen

Send the "R" command to see the coin data stored in memory and the operating parameters for various sensors and the timing of the credit pulse and other signals.

Change Inhibit Line Logic (See page 21A)

Xeptors® have a hardware inhibit line that is used to prevent acceptance of coins even when power is applied to the unit. When inhibited, the Xeptor LED will flash amber color to indicate the inhibit state. Send the "**I**" command to change to "inhibit high" or send the "**i**" command to change to "inhibit low". After doing so, you must send the "**S**" command to save the new configuration to non-volatile memory.

Change Credit Pulse Or Tilt Timing

The "Pccddddtt" command is used to change the output credit pulse width (cc), the diverter output option delay and pulse width (dddd) and the tilt time. Assuming you do not have a diverter option and you would like the credit pulse to be 34ms (ss hex) and the self inhibit after a tilt to last 4 seconds (12/3 sec ⇨ 0C hex) then you would enter the command "**P2200000C**", followed by the "**S**" command to save the new configuration to non-volatile memory.

Increase X-Mark® Code Reading Security

Use this command to cause the Xeptor to increase the X-Mark® reading security (have higher standards for acceptance) in order to knock out tokens which may have minted text or graphics, which may, at least in part, mimic X-Mark®, facet reflections (only V3.0p or after). Bits 4 and 5 in the Sysconfig byte control the X-Mark reading security features. Assuming that the inhibit logic is set for inhibit high (stored in bit 3 of SysConfig) and you wanted to set both X-Mark® reading security bits (which raise the signal threshold level and require the mark be seen on both the leading and trailing edge of the coin), you would send the command "**s38**" followed by the "**S**" command to save the new configuration to non-volatile memory. If you additionally wanted tighter metal alloy tolerance, use "**s78**".

AUTO REPORTING

The Xeptors® will not "speak unless spoken to" except when a coin has been deposited. The Xeptor® will automatically report the disposition and sensor readings taken from each coin when the analysis is complete and the SENSE pulse has been issued. If internal credit optics are installed, a subsequent report on slow or reverse coins may additionally occur. The auto report message consists of 6 data bytes as shown below in ASCII Hex format.

Auto report from a coin matching coin memory #3. The coin has the same edge and center metal, a diameter of 1.464 and an X-Mark® code of 03. More examples are shown on the next page.

Disposition
Edge Metal S
Edge Metal A
Center Metal
Diameter
Token Code

3 24 2B 2B DC 03
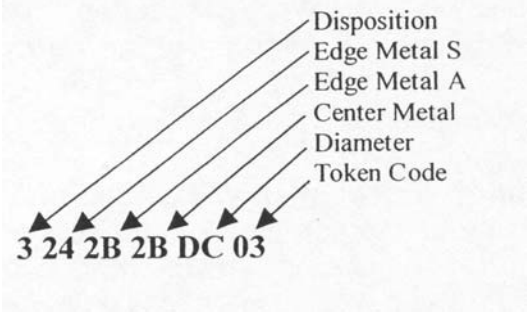
Disposition, E-Metal-S, E-Metal-A, C-Metal-A, Diameter, and Token Code. The disposition types are as shown in the table below. There are three metal alloy readings, two taken at the edge of the coin and one in the center of the coin. The diameter reading formula for the X-10 is 0.870 + 0.0027 x Diameter for coins larger than 0.870" and if the token Code = 80 signifying a coin smaller than 0.870". Note, due to slight variations in the optical parts used, the diameter reported by a given unit may vary slightly from this ideal formula.

Value	Disposition Value Meaning
1-6	The coin memory number, which had parameters matching the accepted coin.
D	No coin memory had a DIAMETER matching the rejected coin
X	Diameter was okay, X-Mark doesn't match the rejected coin
M	Diameter and X-Mark okay, edge METAL measurement doesn't match rejected coin
m	All parameters matched, except center METAL measurement, for the rejected coin
U	Parameters matched the designated UNWANTED coin, and was rejected
T	Tighter metal alloy rejection based on ensemble of all three metal alloy readings
S	A SLOW coin passed through the Xeptor, could be a stringer or sticking problem
R	An accepted coin REVERSED direction, credit may or may not have issued
L	The rotary switch was turned to one of the 6 LEARN positions
I	The Xeptor was INHIBITED, coin rejected

REPORT COMMAND

The "R" REPORT command produces a list of all the Critical operational parameters of the Xeptor®. An Example of a REPORT is shown on the next page. In the first line, the software version is identified and the ID# of the unit is reported. The next 8 lines report the Detail contents of each of the 6 coin memories. The bits of the Options byte are defined in the table above.

BIT	Option Bits Description
0,1	Add bits to standard metal tolerance.
2,3	Add .030" / bit to diameter tolerance
4,5,6	X-Mark reflective strength tolerance
7	Diverter enabled coin

The "Thresholds" line shows the sensitivity levels set for the 4 X-Mark® optical sensors, the three diameter optical sensors, and the two credit optics sensors. These values will be between 1 and 8 normally. The "Tank Calib" line shows the value of the inductive sensor reading when the last "learn" was performed, and what it is now in two different configurations. These should be in the 40's or higher. The "Sys Config" byte will normally be 00 for "inhibit low" and 80 for "inhibit high" on the Inhibit input line. The remaining timing values should be self-explanatory.

Example configuration Report and coin Auto Report messages.

Xeptor® 30 (r) ID#: 1F5E

Coin Memory:	01	02	03	04	05	06
Coin Pulses:	0D	01	00	01	00	00
Token Code:	00	00	00	03	00	00
E-Metal S:	26	24	00	24	00	00
E-Metal A:	2E	2C	00	2C	00	00
C-Metal S:	2E	2C	00	2C	00	00
Diameter:	D9	DA	00	DC	00	00
Options:	01	01	00	81	00	00

Thresholds: 05 07 06   03 05 08   00 00

Tank Calib: 47   Tank Now: 47   51

Sys Config: 08   Tilt Timer   1/3   sec 09

Credit ms: 20   Divert Dly/ Pls ms: 10 50

2   23 SD SC D9 00
2   25 2C 2C DC 00
2   24 2C 2D DA 00
4   24 2D 2D DB 03 - Distinguished by X-Mark from #2
D   35 3E 3E 1E 00 - failed on diameter
2   23 2D 2C D9 00
2   25 2C 2C DC 00
M   2A 30 30 DA 00 - Failed on edge metal
4   25 2C 2C DC 03
4   24 2C 2D DA 03
4   24 2D 2D DB 03
U   26 2D 2E D6 00 - Unwanted close slug for #2
U   27 2E 2D DA 00 - Unwanted close slug for #2
I   00 00 00 00 00
I   00 00 00 00 00 - Xeptor inhibited
I   00 00 00 00 00
2   23 2D 2C D9 00
2   25 2C 2C DC 00
2   24 2C 2D DA 00
S   00 00 00 00 00 - Coin took too long in coin chute
R   00 00 00 00 00 - Wrong exit after credit issue
4   24 2C 2D DA 03
4   24 2D 2D DB 03
2   23 2D 2C D9 00
2   25 2C 2C DC 00
2   24 2C 2D DA 00
4   24 2D 2D DB 03

Note: The internal sequence for parameter checking is 1.) diameter, 2.) code, 3.) edge metal-S, 4.) edge metal-A, 5.) center metal. Coin memory is checked in the order of 1-6 for a match.

IDX, Inc.

IDX INC

X-10 & X-50 Inhibit Compatibility
Rev 07/29/02

PURPOSE
This document tabulates the compatibility requirements for the INHIBIT signal when replacing various Coin Mechanisms acceptors.

TABLE
The table below indicates the proper Xeptor serial port command required to set the inhibit for the expected emulation mode.

- High = 5V to 12V or float
- Low = 0 to 1V or >5ma sink

INHIBIT=HIGH, ACCEPT=LOW XEPTOR COMMAND = I	INHIBIT=LOW, ACCEPT=HIGH XEPTOR COMMAND = i
PP46 (CC-46 66460001)	PP46 (CC-46 66460002)
PP16, PP16IC	PP62
PP3337, PP40	PPCDS
PPIGTDC	
PPSIGMA	
PP-62	

How to Order The "X Family Xeptors®" The IDX Way

X10	C	-	C	04	3	3	0	6
↕	↕	↕	↕	↕	↕	↕	↕	↕

- MODEL NUMBER
- OPTIONS
- SPECIAL MODIFICATIONS
- INTERFACE
- ANGLE CODE
- THICKNESS SETTING
- DIAMETER SEPACER
- SECURITY
- PERSONALITY PLUG
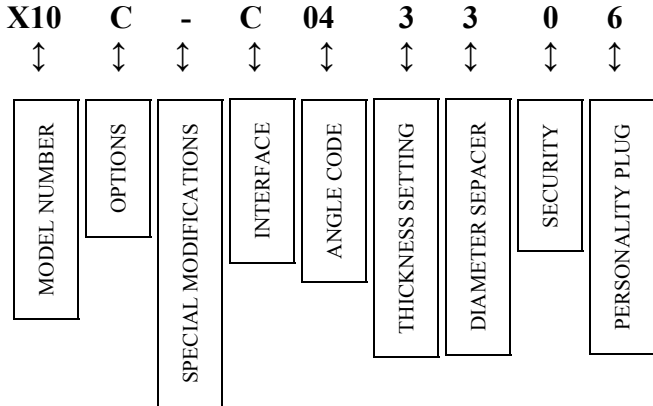
MODEL NUMBER
X10
X13 = COIN IN OPTIC

OPTIONS
C = STANDARD
D = PLUG FOR DIVERTOR
T = XEPTOR CABLE FOR TERMINATOR

SPECIAL MODIFICATIONS
- = STANDARD
A = MECH. POST/ATRONIC AMERICAS
D = DIME ONLY
E = COIN IN OPTIC & CREDIT OUTPUT PULSE IS 50 ms FOR NOVAMATIC
F = SMART MARK PROCESSOR (1ST code)
G = OUTPUT PULSE IS 50 ms LABELED CC-46, ORION PINOUT CC-62
I = IGT WIRING HARNESS
M = SPECIAL CHIP FOR COIN MASTER MACHINE
R = SEGA ROYAL ASCOT has two 1200pF 50V Capacitors on C8 & C9. **AND…**if a PP-62 is used, ADD a 10K resistor to the PP-62 on pin 6 (12 V) & 7(Inhibit).
S = SET PULSE TO 48 ms FOR SIGMA (To replace CC-40)
U = SET PULSE TO HEX 14 = 20 ms FOR UNIDESA

INTERFACE
C = REQUIRES PERSONALITY PLUG (REPLACES COIN MECH)
D = DIGITAL MULTI COIN
N = NET PLEX
S = SERIAL MULTICOIN (SERIAL PORT)

THICKNESS SETTING (COIN SIZE)
0 = Position A = .087 (.082 to .062)   **2** = Position E = .110 (.105 to .085)
4 = Position B = .092 (.087 to .067)   **3** = Position F = .116 (.111 to .091)
1 = Position C = .097 (.092 to .072)   **6** = Position G = .123 (.118 to .098)
5 = Position D = .103 (.098 to .078)   **7** = Position H = .130 (.125 to .105)

ANGLE CODE CHART
04 = 0°, 60°	**37** = 45°, 105°	**4A** = 60°, 150°
05 = 0°, 75°	**28** = 30°, 120°	**5A** = 75°, 150°
15 = 15°, 75°	**38** = 45°, 120°	**6A** = 90°, 150°
16 = 15°, 90°	**48** = 60°, 120°	**6B** = 90°, 165°
26 = 30°, 90°	**39** = 45°, 135°	**7B** = 105°, 165°
17 = 15°, 105°	**49** = 60°, 135°	**8B** = 30°, 142°
27 = 30°, 105°	**59** = 75°, 135°	**NN** = NO ANGLE

SECURITY
0 = STANDARD
1 = ****To be determined later
2 = ****To be determined later
3 = DISABLE BOTH (FOR X-KEY ONLY)

DIAMETER SPACER {SPACER COLOR} (COW/CODE-BANDB)
0 = 1.475   (1.470 to 1.400)
1 = 1.355 {Clear}   (1.350 to 1.280)
2 = 1.255 {Black}   (1.250 to 1.180)
3 = 1.130 {Orange} (1.125 to 1.055)
4 = 1.003 {Yellow} (.998 to .928)
5 = .915 {Green}   (.910 to .840)
6 = .875 {Blue}   (.870 to .800)
7 = 1.110 {Purple} (1.105 to 1.035)
A = 1.193   (1.188 to 1.118)
      {One #2 (Black) and one #3 (Orange) guide }
B = .955   (.950 to .880)
      {One # 4 (Yellow) and one #5 (Green) guide }
C = 1.030   (1.025 to .955)
      {One # 3 (Orange) and one # 5 (Green) guide }

PERSONALITY PLUG
N = NO PERSONALITY PLUG
1 = PP-62 = RETROFIT FOR CC-62, IC-62, & MC-62, w/COIN IN OPTIC, **INHIBIT LOW**
Î = PP-62 = RETROFIT FOR CC-62, IC-62, & MC-62, w/COIN IN OPTIC, **INHIBIT HIGH**, KONAMI
2 = PP-46 = RETROFIT FOR CC-46, w/COIN IN OPTIC
3 = PP-3337 = RETROFIT FOR CC-33 & CC-37
4 = PP-40 = RETROFIT FOR CC-40 & MC40, w/COIN IN OPTIC
5 = PP-16IC = RETROFIT FOR CC-16 Inhibit 12v & IC-36 Inhibit
6 = PP-16 = RETROFIT FOR CC-16, IC-33, IC-37, & MC16
7 = PP-UNI = UNIVERSAL PERSONALITY PLUG
8 = PP-IGTDC = RETROFIT FOR CC-32, CC-36, & IC-32
9 = PP-CDS = RETROFIT FOR CC-40, w/COIN IN OPTIC
A = PP-SIGMA = SIGMA SPECIAL (TILT TIME = 06), w/COIN IN OPTIC
B = PP-NRI3 = VIDEO LOTTERY (3 SEPARATE OUTPUTS) –**Change processor chip to X1050-3R-NRI**
C = PP-NRI6 = VIDEO LOTTERY (6 SEPARATE OUTPUTS) – **Change processor chip to X1050-3R-NRI**
D = PP-ARISTOCRT = RETROFIT ARISTOCRAT PP-62
R = PP-CWR = RELAY
M = PP-CWR w/COIN IN OPTIC

NOTE:
IC-33 & IC-37 are same as a PP-16
IC-36 in a BALLY (INHIBIT) is a PP-16IC
IC-36 in an IGT VISION is a PP-IGTDC

IDX INCORPORATED
Rev. 03/06/02

The following apply in selecting a Personality Plug for the different Original Equipment Manufactures. But are not to be considered standard & may vary in some cases. See page 22 for further information.

IGT Machine Name	Coin Diameter Size	Processor Type	Volt	IDX Personality Plug	PP #
Game King Plus	N/A	80960	DC	PP-IGTDC	8
Game King	N/A	80960	DC	PP-IGTDC	8
I Game	N/A	80960	DC	PP-IGTDC	8
I Game Plus	N/A	80960	DC	PP-IGTDC	8
Vision	N/A	80960	DC	PP-IGTDC	8
S2000	N/A	80960	DC	PP-IGTDC	8
PE+	1.340 and below	8032	AC	PP-16	6
PE+	above 1.340	8032	AC	PP-3337	3
S+	1.340 and below	8032	AC	PP-16	6
S+	above 1.340	8032	AC	PP-3337	3

Bally Gaming up to a $1.00 (1.465 x .101) is an X10 & uses a #6 (PP-16). Bally $5.00 (1.755 x .122) & up is an X70 & uses a #6 (PP-16).

Williams Gaming uses a #5 (PP-16IC) for all their machines.

Note: IC-33 or IC-37 is the same as a PP-16 personality plug.
IC-36 in a Bally Inhibit machine is a PP-16IC.
IC-36 in an IGT Vision machine is a PP-IGTDC.
Some MC-40 & CC-40 units in the field were found to have a pin-out to match the IDX PP-40 & PP-62.
In the field it was discovered that some CC-46 units in the Orion Special were labeled as being a CC-46 but the pin-outs were for a CC-62, which retrofits the IDX PP-62.

Sigma Gaming uses the following Personality Plugs
1.   PP-SIGMA or a #A in our P/N.
2.   PP-40 or a #4 in our P/N.
3.   PP-16IC or a #5 in our P/N.
Sigma Gaming machines use three different formats.

1.   SG-88 Format uses a PP-SIGMA or a #A Personality Plug in our P/N.
2.   Dallas Format uses a PP-40 or a #4 Personality Plug in our P/N.
3.   Prior Format before the above uses a PP-16IC or a #5 in our P/N.

Some Atronic International machines in the field using a Condor CN103 with a CC-16 inhibit will retrofit to an IDX PP-16IC.
Condor coin acceptors CN-133, CN-403, CN404, CN405, CN406 all retrofit to an IDX PP-62 or a #1 Personality Plug. The CN-110R will retrofit our X10 with a PP-IGTDC.

Information for Original Equipment Manufacture brackets to correct misalignment or for coinhead changes turn to page 25.

How to Order The "X Family Xeptors®" The IDX Way

$$\text{X50/X70} \quad \text{A} \quad - \quad \text{C} \quad 04 \quad 3 \quad 3 \quad 0 \quad 6$$
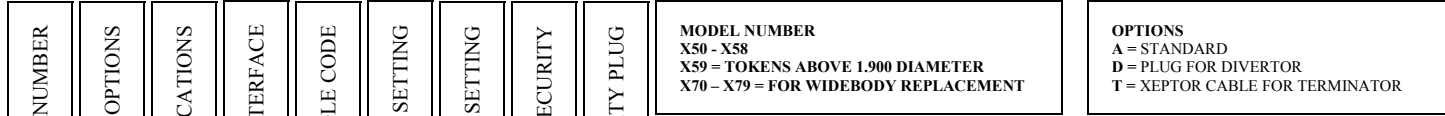
↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕

| MODEL NUMBER | OPTIONS | SPECIAL MODIFICATIONS | INTERFACE | ANGLE CODE | THICKNESS SETTING | DIAMETER SETTING | SECURITY | PERSONALITY PLUG |

MODEL NUMBER
X50 - X58
X59 = TOKENS ABOVE 1.900 DIAMETER
X70 – X79 = FOR WIDEBODY REPLACEMENT

OPTIONS
A = STANDARD
D = PLUG FOR DIVERTOR
T = XEPTOR CABLE FOR TERMINATOR

SPECIAL MODIFICATIONS
- = STANDARD
F = SMART MARK PROCESSOR (1ST code)
G = OUTPUT PULSE IS 50 ms LABELED CC-46, ORION PINOUT CC-62
I = IGT WIRING HARNESS
M = SPECIAL CHIP FOR COIN MASTER MACHINE
R = SEGA ROYAL ASCOT has two 1200pF 50V Capacitors on C8 & C9. **AND…**if a PP-62 is used, ADD a 10K resistor to the PP-62 on pins 6 (12 V) & 7(Inhibit).
S = SET PULSE TO 48 ms FOR SIGMA (To replace CC-40)
U = SET PULSE TO HEX 14 = 20 ms FOR UNIDESA
W = WILLIAMS GAMING CREDIT OPTICS

INTERFACE
C = REQUIRES PERSONALITY PLUG (REPLACES COIN MECH)
D = DIGITAL MULTI COIN
N = NET PLEX
S = SERIAL MULTICOIN (SERIAL PORT)

ANGLE CODE CHART

04 = 0°, 60°	**37** = 45°, 105°	**4A** = 60°, 150°
05 = 0°, 75°	**28** = 30°, 120°	**5A** = 75°, 150°
15 = 15°, 75°	**38** = 45°, 120°	**6A** = 90°, 150°
16 = 15°, 90°	**48** = 60°, 120°	**6B** = 90°, 165°
26 = 30°, 90°	**39** = 45°, 135°	**7B** = 105°, 165°
17 = 15°, 105°	**49** = 60°, 135°	**8B** = 30°, 142°
27 = 30°, 105°	**59** = 75°, 135°	**NN** = NO ANGLE

THICKNESS SETTING (COIN SIZE)
0 = .110 (.105 to .080)
1 = .130 (.125 to .110)
2 = .150 (.145 to .130)

DIAMETER (COIN W/CODE-BAND B)
SETTING
0 = 1.575 (1.570 to 1.445)
1 = 1.725 (1.720 to 1.595)
2 = 1.900 (1.895 to 1.710)
2 = 1.950 (Used in an X59 - will tolerate **only** a 1.95 diameter token)

SECURITY
0 = STANDARD
1 = ****To be determined later
2 = ****To be determined later
3 = DISABLE BOTH (FOR X-KEY ONLY)

PERSONALITY PLUG
N = NO PERSONALITY PLUG
1 = PP-62 = RETROFIT FOR CC-62, IC-62, & MC-62, w/COIN IN OPTIC, **INHIBIT LOW**
Î = PP-62 = RETROFIT FOR CC-62, IC-62, & MC-62, w/COIN IN OPTIC, **INHIBIT HIGH**, KONAMI
2 = PP-46 = RETROFIT FOR CC-46, w/COIN IN OPTIC
3 = PP-3337 = RETROFIT FOR CC-33 & CC-37
4 = PP-40 = RETROFIT FOR CC-40 & MC-40, w/COIN IN OPTIC
5 = PP-16IC = RETROFIT FOR CC-16 Inhibit 12v & IC-36 Inhibit
6 = PP-16 = RETROFIT FOR CC-16, IC-33, IC-37, & MC-16
7 = PP-UNI = UNIVERSAL PERSONALITY PLUG
8 = PP-IGTDC = RETROFIT FOR CC-32 , CC-36, & IC-32
9 = PP-CDS = RETROFIT FOR CC-40, w/COIN IN OPTIC
A = PP-SIGMA = SIGMA SPECIAL (TILT TIME = 06), w/COIN IN OPTIC
B = PP-NRI3 = VIDEO LOTTERY (3 SEPARATE OUTPUTS) **- Change processor chip to X1050-3R-NRI**
C = PP-NRI6 = VIDEO LOTTERY (6 SEPARATE OUTPUTS) – **Change processor chip to X1050-3R-NRI**
R = PP-CWR = RELAY
M = PP-CWR w/COIN IN OPTIC

NOTE:
IC-33 & IC-37 are same as a PP-16

IC-36 in a BALLY (INHIBIT) is a PP-16IC

IC-36 in an IGT VISION is a PP-IGTDC

How to Order The "X Family Xeptors®" The IDX Way

X20	C	-	C	NN	2	7	3	8
↕	↕	↕	↕	↕	↕	↕	↕	↕

- MODEL NUMBER
- OPTIONS
- SPECIAL MODIFICATIONS
- INTERFACE
- ANGLE CODE
- THICKNESS SETTING
- DIAMETER SEPACER
- SECURITY
- PERSONALITY PLUG
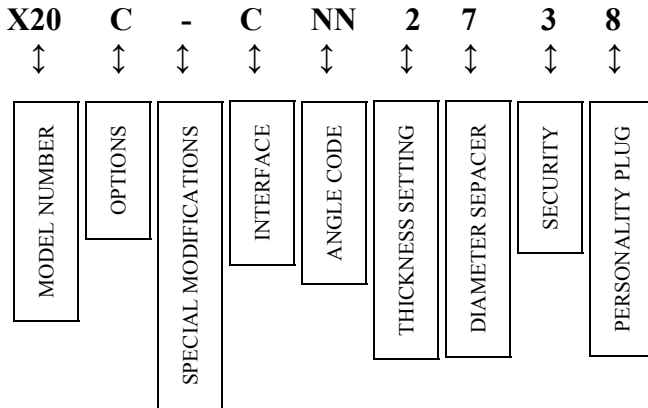
MODEL NUMBER
X20 & X22
X23 = COIN IN OPTIC

OPTIONS
C = STANDARD
D = PLUG FOR DIVERTOR
T = XEPTOR CABLE FOR TERMINATOR

SPECIAL MODIFICATIONS
- = STANDARD (W/ MECH. POST)
D = DIME ONLY
E = COIN IN OPTIC & CREDIT OUTPUT PULSE IS 50 ms FOR NOVAMATIC
G = OUTPUT PULSE IS 50 ms LABELED CC-46, ORION PINOUT CC-62
I = IGT WIRING HARNESS
M = SPECIAL CHIP FOR COIN MASTER MACHINE
R = SEGA ROYAL ASCOT - if uses PP-62, ADD 10K resistor to pins 6 (12V) & 7 (Inhibit)
S = SET PULSE TO 48 ms FOR SIGMA (To replace CC-40)
U = SET PULSE TO HEX 14 = 20 ms FOR UNIDESA

INTERFACE
C = REQUIRES PERSONALITY PLUG (REPLACES COIN MECH)
D = DIGITAL MULTI COIN
N = NET PLEX
S = SERIAL MULTICOIN (SERIAL PORT)

ANGLE CODE CHART

NN = NO ANGLE

THICKNESS SETTING (COIN SIZE)
0 = **Position A** = .087 (.082 to .062)   **2** = **Position E** = .110 (.105 to .085)
4 = **Position B** = .092 (.087 to .067)   **3** = **Position F** = .116 (.111 to .091)
1 = **Position C** = .097 (.092 to .072)   **6** = **Position G** = .123 (.118 to .098)
5 = **Position D** = .103 (.098 to .078)   **7** = **Position H** = **.**130 (.125 to .105)

DIAMETER SPACER {SPACER COLOR} (COW/CODE-BANDB)
0 = 1.475   (1.470 to 1.400)
1 = 1.355   {Clear}   (1.350 to 1.280)
2 = 1.255   {Black}   (1.250 to 1.180)
3 = 1.130   {Orange} (1.125 to 1.055)
4 = 1.003   {Yellow} (.998 to .928)
5 = .915   {Green}   (.910 to .840)
6 = .875   {Blue}   (.870 to .800)
7 = 1.110   {Purple} (1.105 to 1.035)
A = 1.193   (1.188 to 1.118)
        {One #2 (Black) and one #3 (Orange) guide }
B = .955   (.950 to .880)
        {One # 4 (Yellow) and one #5 (Green) guide }
C = 1.030   (1.025 to .955)
        {One # 3 (Orange) and one # 5 (Green) guide }

SECURITY
0 = STANDARD
1 = **** To be determined later
2 = **** To be determined later
3 = DISABLE BOTH (FOR X-KEY ONLY)

NOTE:
IC-33 & IC-37 are same as a PP-16
IC-36 in a BALLY (INHIBIT) is a PP-16IC
IC-36 in an IGT VISION is a PP-IGTDC

PERSONALITY PLUG
N = NO PERSONALITY PLUG
1 = PP-62 = RETROFIT FOR CC-62, IC-62, & MC-62, w/COIN IN OPTIC, **INHIBIT LOW**
Î = PP-62 = RETROFIT FOR CC-62, IC-62, & MC-62, w/COIN IN OPTIC, **INHIBIT HIGH**, KONAMI
2 = PP-46 = RETROFIT FOR CC-46, w/COIN IN OPTIC
3 = PP-3337 = RETROFIT FOR CC-33 & CC-37
4 = PP-40 = RETROFIT FOR CC-40 & MC40, w/COIN IN OPTIC
5 = PP-16IC = RETROFIT FOR CC-16 Inhibit 12v & IC-36 Inhibit
6 = PP-16 = RETROFIT FOR CC-16, IC-33, IC-37, & MC16
7 = PP-UNI = UNIVERSAL PERSONALITY PLUG
8 = PP-IGTDC = RETROFIT FOR CC-32 , CC-36, & IC-32
9 = PP-CDS = RETROFIT FOR CC-40, w/COIN IN OPTIC
A = PP-SIGMA = SIGMA SPECIAL (TILT TIME = 06), w/COIN IN OPTIC
B = PP-NRI3 = VIDEO LOTTERY (3 SEPARATE OUTPUTS) – **Change processor chip to X1050-3R-NRI**
C = PP-NRI6 = VIDEO LOTTERY (6 SEPARATE OUTPUTS) – **Change processor chip to X1050-3R-NRI**
D = PP-ARISTOCRT = RETROFIT ARISTOCRAT PP-62
R = PP-CWR = RELAY
M = PP-CWR w/COIN IN OPTIC

Model X-Key™ (Release 1)
Xeptor® Security Key
For X-10 And X-50 Multi-Coin And Encoded Token Acceptors

Release 1 of the **X-Key** provides a means for securing the programming environment of the X-10 and X-50 Xeptors® in order to prevent fraudulent behavior of personnel. Normally an Xeptor® may be put into the LEARN mode by anyone with access and procedural knowledge. However, a secured Xeptor may be programmed only if the X-Key is plugged into the 3-pin serial data port socket as shown in the figure to the left. Electronic verification of random encrypted codes shared between the Xeptor and X-Key is required before the Xeptor® will enable itself to be programmed to accept new coin types. As a result, if you control the X-Key, you will control your Xeptor® security by eliminating the potential threat from marginal personnel with inside knowledge and access.

X-KEY PRODUCT FEATURES
❖ Must be plugged into an Xeptor® to enable its coin memory LEARN features.
❖ Xeptor® and X-Key exchange randomized encrypted codes before enabling LEARN.
❖ Xeptors® Automatically become "secured" after first coin LEARN with X-Key present.
❖ Secured Xeptors® with rotary switch SW2 in a LEARN position will exhibit a flashing amber LED, indicating LEARN mode is currently inhibited.

OPERATION
❖ Remove the Xeptor® cover and identify the three terminal serial port connector identified as J4 located adjacent to the Personality Plug, and plug the connector cable of the X-Key into J4
❖ Change rotary switch SW2 position from 0 (normal operating mode) to one of the coin memory LEARN positions 1 through 6. You should see the Xeptor® LED turn bright red and the X-Key LEDs should turn on and be green. This confirms that the X-Key has powered up and has enabled the Xeptor® to learn a coin.
❖ Follow the LEARN procedure outlined with information provided with your Xeptor®.
❖ When complete, turn rotary switch SW2 back to position 0 and remover the X-Key plug from socket J4. If the Xeptor was not initially secured it now will be.

Model X-Key™ (Release 2)
Xeptor® Security Key
X-Key Authorization & Tracking Software Utility For Windows

Release 2 of the **X-Key** provides a means for securing the programming environment of the X-10 and X-50 Xeptors in order to prevent fraudulent behavior of personnel. Normally an Xeptor may be put into the LEARN mode by anyone with access and procedural knowledge. However, a secured Xeptor may be programmed only if an ENABLED X-Key is plugged into the 3-pin serial data port socket as shown in the figure to the left. To ENABLE the X-Key you must "log-on" to it through the PC based program X-Tracker that puts a time/date stamp and your personal ID into the X-Key and each Xeptor to which it is connected. Serial numbers of the Xeptors are logged to the X-Key and recorded in the X-Tracker encrypted files when you "log-off" the X-Key, thus leaving a complete trail of all activity.

X-KEY PRODUCT FEATURES
- Must be plugged into an Xeptor® to enable its coin memory LEARN features.
- Time/date stamp and personal ID stored in Xeptor® and X-Key and X-Tracker files.
- Xeptors automatically become "secured" after first coin LEARN with X-Key present.
- Secured Xeptors® with rotary switch SW2 in a LEARN position will exhibit a flashing amber LED, indicating LEARN mode is currently inhibited.

OPERATION
- First enable the X-Key through log-on procedure with PC based X-Tracker program.
- Remove the Xeptor® cover and plug the 3-pin X-Key connector into socket J4.
- Change rotary switch SW2 from position 0 (normal operating mode) to one of the coin memory LEARN positions 1 through 6. The Xeptor® LED should turn bright red and the X-Key LEDs should turn on and be green. This confirms the X-Key has powered up and enabled the Xeptor®.
- Follow the normal LEARN procedure outlined with information provided with your Xeptor®.
- When complete, turn rotary switch SW2 back to position 0 and remove the X-Key plug from socket J4. If the Xeptor® was not initially secured, it now is secured.
- After the last Xeptor® is programmed, disable / log-off the X-Key using the X-Tracker program.

Patent Pending: U.S.A., Australia, Canada, England
IDX Inc. 411 W. Main St., El dorado, AR 71730 ☎ 800-643-1109 Fax: 870-862-3472

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X-Tracker™
X-Key Management Software
Xeptor® Electronic Security Key Tracking Utility - Windows®

Rev 6-15-00

The X-Tracker is a Windows based software utility for managing and tracking X-Key (release-2) activity. An authorized personnel roster is set up and enables these personnel to "log-on" to an X-Key, which enables it to communicate with and enable an Xeptor®. The personal ID and a time and date stamp are stored in an encrypted redundant file system on the PC and in the X-Key. When the X-Key is used to enable changes to the "learned coins" of an Xeptor®, this same information is stored in the Xeptor® and the serial number of the Xeptor® is stored in the X-Key. Responsibility for the X-Key is terminated by X-Tracker "log off". This disables the X-Key and stores the log-off information including the Xeptor serial numbers in the redundant encrypted PC log files.

X-TRACKER PRODUCT FEATURES
- Two level Security Roster for: a) personnel management, b) X-Key log on/off.
- Redundant encrypted files of all activity ensure reliable, tamper proof records.
- X-Key is enabled only by authorized personnel who remains responsible until disabled.
- Authorization ID and time and date stamp stored in local files and in Xeptor® memory.

INSTALLING X-TRACKER SOFTWARE
Use Windows Explorer to find the file called SETUP.EXE on the installation disk. Double-click it to start it. The SETUP program will create a new folder called X-Tracker and copy the files from the installation disk to your computer. Right click on the X-Tracker icon in the folder and follow the menu to Send To Desktop as a shortcut. When your computer runs the program for the first time, you will be instructed to call IDX for authorization to install the program. Follow the instructions and input the code given to you.

COM PORT SELECTION
The first time you run the program, click the "COM Port Setup" button and select the correct serial port (see figure at right) for use with the X-Key.

SECURITY CHECK
Access to all other screens requires a Security Check as shown at far right. Until you change the Security Roster, the only valid names and secret code that will work are Demo, Demo, and Demo.

SECURITY ROSTER

The Security Roster Screen is used to determine access authority for each of the screens. Those at the Master Security Level can access all screens. Those at the Basic Security Level can only access the X-Key Log On / Log Off screen shown below. Be careful to remember that all entries are case sensitive. Names must be 2 to 15 letters long and the secret code must be 4 to 6 letters/numbers long. The ID number in the far right column is a 16 bit number computed from the First Name and Last Name entries and is the personnel ID number actually stored in the Xeptor® by an enabled X-Key.

The information on this form is stored in an encrypted file to deter hacking by an employee with less than honorable intentions. If this form is printed to maintain a record of authorized personnel, IDX recommends that it, and any copy of it, be stored only in the locked files of management not normally accessible to others.

X-KEY LOG ON / LOG OFF

When this screen is activated, the PC will try to communicate to the X-Key over the specified serial COM port. The X-Key should **NEVER** be connected to the PC and an Xeptor at the same time. Information about the last four "Logs" on the X-Key are displayed in the window on the left. The serial numbers of any Xeptors that have been enabled for programming by the X-Key will be listed in the right window. When the X-Key is enabled, its LEDs will be green and the Current Log will display only Log On information, but no Log Off information.

VIEW ACTIVITY LOG FILES

The Activity Log File is a simple list of all activity, including Log On / Log Off of an X-Key, the list of Xeptor serial numbers enabled by an X-Key, who viewed, changed or printed the Security Roster, and who viewed the Activity Log File. This information is also kept in an encrypted file to deter hacking by an employee with less than honorable intentions.

This file may be viewed by log-date or by user name. When the file length grows larger than the window, a scroll bar will appear. Any Xeptor serial numbers are associated with "Log Off" activity. Click this record, and an additional window to the right will appear to show the serial numbers.

XEPTOR® CONFIGURATION

By connecting the computer's serial port directly to the Xeptor®, you can read the contents of its configuration memory. All of the parameters used to determine coin acceptance, sensor calibration, and option configuration may be viewed. Information, which describes the meaning of each of these parameters, is available in a help window in the lower left. A record of the last three people who altered the program (along with a time and date stamp) is displayed in the upper right. Finally, a deciphered summary of the self diagnostic bytes indicating sensor status, operating problems, and the coin programming security status of the Xeptor® is reported in the middle window on the right.
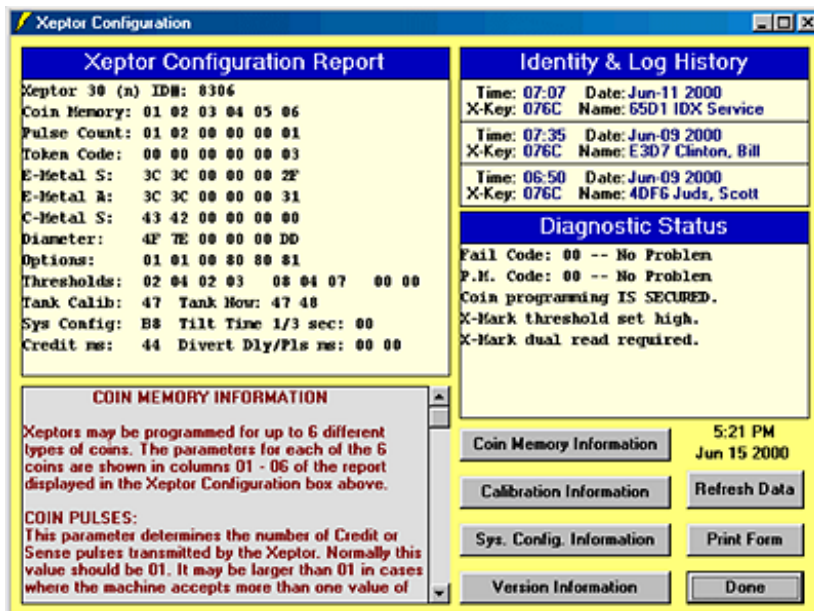
X-KEY AND X-TRACKER NOTES:

1. **Older X-Key Release-1** units (which do not have a 9 pin computer serial port connector opposite of the Xeptor® connector cable) are always enabled, meaning that one does not have to Log-On to enable it. When Release-1 units communicate with the Xeptor®, they do not have an X-Key ID, Personal ID, Time Stamp or Date Stamp to leave with the Xeptor® as a record of the event. Although a meaningless random number will likely be found for the Time and Date Stamps, the Personal ID and the X-Key ID will both be recorded as **0101** in the Xeptor® memory.

2. **As shipped X-Key Release-2** units are enabled at the factory so that they may be utilized upon arrival even if the X-Tracker software has not been installed on an available computer. Each Release-2 unit has a unique X-Key ID number, which will be stored in the Xeptor®. The Time Stamp and Date Stamp will be that of the manufacture date. The Personal ID name stored in the X-Key will be **Demo.** All names are converted to a Personal ID number for compact storage in the Xeptor®. The Personal ID number for Demo is **E5E5.** If the X-Tracker program reads this information back from the Xeptor® at a later time, the E5E5 ID number is then compared to Personal ID numbers in the Security Roster of the X-Tracker program. If Demo is in the Security Roster, it will be displayed, otherwise there will be no name adjacent to E5E5 displayed in the Identity and Log History window as shown above.

3. **Obsolete Security Roster Names** that are removed from the Security Roster may not be automatically regenerated during an investigational interrogation of an Xeptor® using the X-Tracker program. The Xeptor® only holds the four digit hexadecimal Personal ID number generated from the name originally in the Security Roster. If this name is later removed, the X-Tracker program will not be able to match up the Personal ID number from the Xeptor® to a full name in the Security Roster and thus will only report the Personal ID number without a name attached. There are four ways to overcome this difficulty. a) Obsolete names can be left in the Security Roster if the Secret Code cleared out. This will generate the proper Personal ID number to go with the name, however, with no Secret Code assigned, use of this name will not enable access to any of the X-Tracker functions. b) One can print out the Security Roster any time changes are made to the roster and keep the copies in secured storage should later review be necessary. c) By sorting the Log History by date or by Xeptor® ID you should be able to find the associated name of the person responsible for the X-Key at that time. Note that the Log History Time Stamp is exact, whereas the Xeptor® Time Stamp is rounded to the nearest 5 minutes. d)) By sorting the Log History by name, one can find names that have since been deleted from the Security Roster. These names can be tested in the Security Roster to see if they generate the Personal ID number.

4. **Gaming Regulators** are encouraged to institute a policy regarding use of the X-Key and X-Tracker tools in order to ensure the quality of the records when they are called upon. IDX recommends that it include at least printing of the Security Roster whenever changes are made and creating an archive floppy copy of the files on some regular interval.

5. **X-Key Use Without X-Tracker**, as indicated in (2) above, may be necessary for a period of time when the system is first being put into effect. The procedure to use during this time is the same as described in the X-Key Release-1 single page brochure.

IGT

10/23/98:

S+ or PE IGT dollar machine coin heads are for CC-33 coin mechanism acceptors (reverse mount). Change reverse to front mount as below or use our X50 Series Xeptors®. To use our X10 Xeptors® in IGT $1 machines, set-up machines same as 5¢, 25¢, 50¢ and $2 coin machines (acceptors are front mount type).

1. Coin Base IGT p/n 63304901: for 5¢, 25¢, 50¢ and $2 coins, est. cost $6.41
2. 25¢ IGT p/n 59923412: back plate use with above base, est. cost $3.52
3. 25¢ IGT p/n 59947012: back plate (Vision) use with above base, est. cost $3.52
4. 50¢ IGT p/n 59923427: back plate use with above base, est. cost $3.52
5. $2 IGT p/n 59923431: back plate use with above base, est. cost $3.78
6. $1 IGT p/n 59923484: back plate use with above base, est. cost $4.78 (Use with front mount Model X10 Xeptors®)
7. $1 IGT p/n 59947040: back plate (Vision) use with above base, est. cost $4.78 (Use with front mount Model X10 Xeptors®)
8. IDX will mill out any of the above old used 25¢, 50¢, or $2 back plate part numbers to work with the $1 token at no charge.

05/17/99:

The bracket used to correct the misalignment problem with the coin head for the upright $1 machine for use with our X10 is IGT Part Number: 14314101. This is for both the 8032 and 960 machines. The $5 mounts do not have a change; est. cost $35.85 (Price should be same as old bracket that has alignment problems.)

08/10/99:

The new bracket used to correct the misalignment problem with the coin head for IGT Slant Top Machine under $1.00 denomination using our X10 is IGT Part Numbers and quantity you will need: Qty 1: 63317400; Qty 1: 65377500 Mounting Plate; Qty 2 needed: 44991500 Alignment Pins; Qty 2 needed: 8/32 Nuts.

08/25/99:

The bracket (IGT Part # 57816004) is for converting slant top machine to $1.00 or $2.00 IDX Model X10 Xeptors®. (Change reverse mount CC-33/37 to front mount type acceptor). Above number consists of modified base IGT # 63316600 and coin head IGT Part # 59919700.

02/25/00:

New IGT Part # 63317600-New base and bracket for all small coins for IDX for slant top machines. New IGT Part # 63317500-Complete base and bracket for all small coins for IDX, IGT Machine Models #: S+; PE Upright Machines.

WMS GAMING

02/02/01:

For a Model 400/401/40S5 Upright Reel Slot Machine the IDX Xeptor® requires the use of an IDX Top Coin Entry Alignment Plate Part Number: 01-13676-18.

For a Model 550 Upright Video Slot Machine the IDX Xeptor® requires the use of an IDX Top Coin Entry Alignment Plate Part Number: 01-002738-17.

For a Model 35S/360/35S1/3601 Slant Top Slot or Video Machine the IDX Xeptor® requires the use of the following Top Coin Entry Front Pieces:

TOKEN	WMS P/N
$0.05 U.S. Small Token	21-004272-20ZZZ
$0.25 U.S. Token	21-004274-21ZZZ
$0.50 U.S. Token	21-004274-22ZZZ
$1.00 U.S. Token	21-004274-23ZZZ
$0.10 U.S. Token	21-004274-24ZZZ
$1.00 OLC Token	21-004274-25ZZZ
$0.50 OLC Token	21-004274-35ZZZ

ZZZ is replaced by the appropriate plating finish suffix per WMS Gaming plating specifications.

Sigma Gaming

09/25/02

The bracket to fix the coin channel alignment problem with the IDX Xeptor in a Sigma upright machine Model numbers UV1700 and SG300 is as follows:

For coin sizes up to 1.240" use bracket number 110734-1
For coin sizes 1.240" to 1.755" use bracket number 110734-2

Can Your Acceptor Do This?

FEATURE AND FUNCTION COMPARISON BETWEEN COIN AND TOKEN
ACCEPTORS INTENDED FOR SLOT MACHINES IN THE CASINO MARKET
Rev. 08/16/02

Product Feature	X-10, X-50 IDX, Inc.	Defender Coin Mech, Inc.	Condor Money Controls
Optical diameter measurement	Yes	Yes	Yes
Accepts multiple coin types	Yes	no	Yes
Has bent/shingled coin release	Yes	no	Yes
Serial port for diagnostics and configuration	Yes	no	Yes
LED indicator visible when unit is installed	Yes	Yes	no
Reads optically encoded tokens	X-Mark	no	no
Multi-coin seperator/divertor driver	Yes	no	no
Built-in 24VAC and 12VDC power regulators	Yes	no	no
Designed to shed spilled liquids	Yes	no	no
Personality Plug for universal interface	Yes	no	no
Center & edge bimetalic coin sensing	Yes	no	no
Built-in multi-function field diagnostics	Yes	no	no
Optional copy/clone device	Yes	no	no
Optional time/ID stamp security key	Yes	no	no

Other Condor Notes:

- ❖ When the small denomination is installed, you can not see the indicator LED nor use the programming buttons.
- ❖ When the large denomination is installed, you can not use the coin release feature.
- ❖ The large denomination unit with reverse coin path accepts coins when power is removed.
- ❖ The large denomination unit will not accept anything larger than the 1.75" $5 token.
- ❖ A separate 12V power module is required for use in 24VAC machines.
- ❖ Standard acceptance rate according to their functional specification is 88%.

X-10 and X-50
X-Mark® Xeptor®
The X-Terminator™ Option
Rev. 11/98

INTRODUCTION

The X-Terminator option of the X-10 and X-50 Xeptors provide a means to detect and report fraudulent attempts to use slugs or stringing techniques. A Tilt output is produced to drive the X-Terminator LED board placed in the top section of the light tower. By visibly calling the attention of this activity to casino personnel now you can catch them in the act, or at least discourage them from even attempting to cheat your machines. Exterminate slugging and stringing activity with the X-Terminator.

Tilt

There are three conditions that will cause an Xeptor to produce a Tilt output signal.
1. Very slow or reverse coins.
2. Excessive coin rejection rate.
3. Blocked or dysfunctional sensors.

A Tilt caused by items 1 and 3 are fairly self-explanatory. Item 2, excessive coin rejection rate, is determined by a Bad Coin Counter in memory which counts up by 2 toward 8 for every coin rejected and down by 1 toward 0 for every good coin accepted. This results in the Tilt output activating for: a.) the 4th bad coin in a row, or b.) the 7th bad coin when alternating each with a good coin. Each time a bad coin is inserted and the count reaches 8, the Tilt output is turned on for 3 seconds (length programmable using serial port on the Xeptor). During the period that the tilt output is active, the Xeptor® indicator light will also flash yellow to indicate that it has inhibited itself from accepting coins. After the Tilt period has expired, the Xeptor® will return to normal service.

Under normal circumstance, the Tilt will never affect the play of honest customers. However, if the Xeptor® detects very slow coins, reverse coins, or an excessive coin rejection rate, the Tilt and inhibit functions will temporarily activate to further reduce the likelihood of the machine being cheated.

THE X-TERMINATOR

The X-Terminator is a 1.9" diameter circuit board with 5 ultra-bright LED's, which is mounted inside the top section of the light tower on top of the slot machine. The wires are run down through the machine to the Xeptor®. The Xeptor®'s Tilt output and +12V drive the X-Terminator causing it to flash when the Tilt output is activated. This will attract the attention of casino personnel to determine if the customer has a problem or the customer is the problem. Machines with the X-Terminator will eventually be avoided by customers intent on fraudulent activity.

X-Terminator Board

5 Red LEDs Illuminate Top Part Of Light Tower

Connector to Xeptor
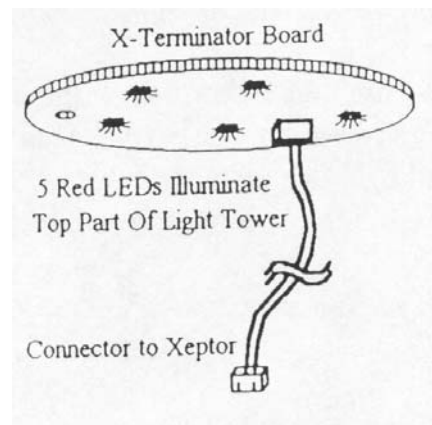
Tip

Xeptors® come with a standard Tilt Time of 3 seconds. This may be changed through the Xeptor®'s serial port as follows. After connection to a PC terminal emulator (see serial port document), type the HH command to put the Xeptor into the Hexadecimal mode. Type the "R" command to view the current settings. Type the Pcc0000tt command where cc is the two digit credit pulse length and should be replaced as it originally was, and tt is the two digit Tilt Time you want expressed in 1/3 second resolution (i.e. 09 = 3 seconds). Slow and reverse coins will always trigger the Tilt output, however, if the Xeptor has built-in coin-in optics, it will not trigger Tilt for an excessive bad coin count unless Tilt Time is set to an even value.

IDX INCORPORATED

Explanation of X-Terminator Option for IDX Xeptors®

IDX Xeptors® with chip sets from 3.0N up have a feature built in which allows the Xeptor® to automatically move into a High Alert status if they sense multiple bad coins. This is effective in discouraging counterfeiters.

The way it works is by keeping a running count of the number of good and bad coins it sees. An internal counter is advanced by 2 units for each bad coin and decreased 1 unit for each good coin. Once the counter reaches 8 the Xeptor® moves into tilt mode for a specified amount of time. In tilt mode, the acceptor stops accepting coins, good or bad. Most factory-configured units have a have a 0 second tilt time, which can be modified with a users computer (see pg. 19A in the IDX setup manual).

In addition to tilt mode, Xeptors® automatically move to a High Alert status, where optical thresholds are increased (requiring more light reflection for the X-Mark® facets), as well as X-Mark® sensing on both the leading and trailing edge on both faces of each token. Xeptors® remain in High Alert mode until the counter is reset to zero, which can occur after 8 good coins are played in a row or the Xeptor® is powered down.

Please note that games without the inhibit feature actually power down the Xeptor® once max coin-in is reached, which causes the Xeptor® to leave High Alert status. This includes games like IGT S+, Players Edge, as well as most Bally games. This can be countered by manually resetting the configuration settings and saving them into non-volatile memory.

If an unwanted coin is programmed into Memory Position #1, the Xeptor® automatically moves to the High Alert status.

INTRODUCTION

The Unwanted Shadow Coin feature of the X-10 and X-50 Xeptors® allows you to teach the Xeptors® the characteristics of both a Valid Coin and an Unwanted Shadow Coin in order to further eliminate false acceptance of a particularly troublesome coin, token, or slug which has a set of characteristics nearly identical to the Valid Coin. This feature is available starting with firmware version V2.3.

UNWANTED SHADOW COIN

A coin acceptor normally has one or more parameters it measures to determine if a deposited coin is to be accepted. Due to slight variations in coins and in how the coin physically passes through the acceptor, it reads a distribution of values about a central value. Coins with parameter readings falling between an upper and lower limit about a central acceptance value, the acceptance window, will be accepted. (See Figure 1).

Sometimes a second Unwanted Shadow Coin can have its parameters overlapping the distribution of the Valid Coin and fit within the acceptance window of the Valid Coin.   Examples of this include a.) a 0.984 70/30-brass token and a 0.984 85/15 brass token, b.) a $1 alloy 752 casino token and a lead slug, and c.) a Brazilian 25 Centavo coin and a "smashed to larger diameter" 10 Centavo coin. The typical solution to this problem is to tighten the acceptance limits. While in some cases this may help, in the example shown in Figure 2, there becomes a serious trade-off between eliminating the Unwanted Shadow Coin and reducing the rate of acceptance for the Valid Coin, neither of which is desirable.
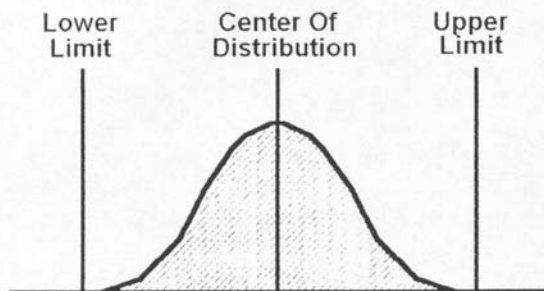

Figure 1. Distribution of parameter readings and typical limits of aceptance.
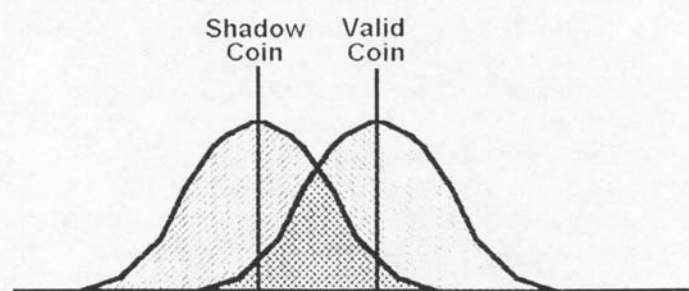
Figure 2. Unwanted Coin in the Shadow of a Valid Coin showing overlap of parameter distribution.

In order to simultaneously eliminate the Unwanted Shadow Coin and maintain a high rate of acceptance for the Valid coin, provision has been made to teach the X-10 or X-50 Xeptor the properties of the Unwanted Shadow Coin. Having done so, when the Xeptor® finds that a deposited coin falls in the acceptance window of both the Valid Coin and the Unwanted Shadow Coin, it will further look more closely at the individual errors from three separate measurement types, each with their won probability distributions, and use them jointly to determine which of the two coins the three properties most closely match. This method has been proven quite successful for achieving excellent discrimination in these tough situations.

HOW TO USE THE UNWANTED SHADOW COIN FEATURE

TO TEACH THE Xeptor® the Unwanted Shadow Coin, go through the LEARN procedure as usual (turn switch to coin memory #, push red button, drop 6 sample coins) with the exception that the Unwanted Shadow Coin **must use coin memory #1** and you must press the **button 13 times** (13 => bad) to initiate the LEARN cycle. The software uses this as a signal to identify it as the Unwanted Shadow Coin.

Tip #1

For best long term performance with the Xeptor®'s built in automatic self adjustment for component drift, we recommend that you **use coin memory #2 when learning the Valid Coin**, although this is not strictly required for basic operation.

Tip #2

Starting with version V3.0P, the diameter also plays a role in the test for an Unwanted Shadow Coin. For defending against stamped currency or tokens from another country or institution, this is helpful if there is a slight (less than .015") difference in diameter. However, if you are defending against crude slugs with a variety of diameter sizes, you should make sure that you train the Xeptor® with slugs that are similar in diameter to your good coin because if the diameter of the learned Unwanted Shadow coin is more than about .015" different from the good coin, it will likely not help with slugs that are very nearly identical in diameter to the good coin as they may be different enough from the learned Unwanted Shadow Coin that they will not qualify as an Unwanted Shadow Coin. Slugs that are different enough in diameter from your good coin will be rejected anyway, and thus are not the threat coin to be learned as the Unwanted Shadow Coin.

Tip #3

When an Unwanted Shadow Coin is programmed into (learned by) the Xeptor®, the Xeptor® also takes this information to mean that there is a threat out there and that it should automatically raise its other defenses against various slug threats, including:
1. Automatically raising the X-Mark® detection threshold (same setting Bit-4 of SysConfig, first available in V3.0M and made smarter in V3.0S).
2. Automatically requiring detection of the X-Mark® on both the leading and trailing edges of the coin (same as setting Bit-t of SysConfig, first available in V3.0P).
3. Automatically tightening the tolerance on the ensemble of three alloy readings by 40% (same as setting Bit-6 of SysConfig, first available in V3.0S).

Tip #4

If your Unwanted Shadow Coin is too identical to the Valid Coin, it may not be possible to eliminate the Unwanted Shadow Coin. You will know this is the case if you have followed all of the instructions above and find that the accept rate for the Valid Coin becomes excessively poor.

Model X10 & X50
X-Mark® Xeptor®
Installation Procedures

In order for the X10 and X50 Xeptors® to operate properly, the thickness and diameter spacers **MUST** be set up according to IDX instructions:

Note: Remember we read the metal of the coin three different ways and do so with the patent pending process of reading the centerline of the coin, as opposed to the edge of the coin. The diameter sliding adjustment has to be in position on both sides, not shifted only to one side to correct coin path misalignment in mounting brackets.

Following is an example for setting up an Xeptor® for a $5 coin (1.755 diameter x 0.122 thickness):

1. The sliding adjustment on the thickness spacer must be set at .130, **with no exceptions**. The diameter spacer must be set at the wide position at 1.900, **with no exceptions**. After setting the Xeptor® with the correct thickness and diameter settings, snap unit into the slot machine bracket.

2. Without applying power to the Xeptor®, drop coins through the unit to ensure that mechanically the coin path is clear and the coins will be rejected. If the coin path is not clear, then adjustment of the brackets right/left or front/back may be required by bending or elongating mounting holes in brackets.

3. The **IDX Xeptors® cannot be adjusted to correct misalignment of coin path. The adjustment must be made to the slot machine brackets only or whatever part of the slot machine is misaligned.**

Note: IGT and Bally new machines have new mounting brackets to correct the misalignment between the centerline of the coin head and the centerline of the coin path. Machines shipped prior to January 1999 could be in perfect alignment or could be off by 1/8".

4. After coin path is proven to be correct then apply power to the Xeptor® and turn switch to position 9. Insert into the throat a piece of white craft paper that has been fan folded. The folded paper MUST be the width of the coin path and thick enough to push against the front and back of the coin chute. With the paper inserted, push the button next to the switch one time. The light will flash red and green and then become a shade of orange. This procedure calibrates the automatic gain control to a standard reference point. With the paper still inserted, turn the switch to position A and push the button as before. Remove the paper.

Note: The X50 Xeptor® consists of two parts, A and B, which are shipped calibrated together. **Anytime the A and B parts are interchanged on units, the Xeptor® must be re-calibrated.**

5. If any Xeptor® has been in the field in operation for a year, then it should be re-calibrated to overcome component deterioration. When the units are re-calibrated as described in #4 above, the Xeptors® have to be reprogrammed (or relearned) by dropping six different coins through the unit in the desired position (1-6), as the numbers stored previous to re-calibration are no longer valid.

6. The only problems encountered thus far with the Xeptors® is personnel trying to adjust the thickness and diameter settings to offset coin path misalignment when replacing the competitor (CC ? type) acceptors. Coin acceptors that have a tremendous front/back and right/left play are acceptable if the metal of the coin is only read one time. The IDX Xeptors® measure the diameter of the coin +/- .015". Consider trying to measure a board within 1/16" when the board is moving right to left 1" at a time, 60 times a second. This would be impossible. It is this sort of problem encountered when the thickness and diameter adjustments of our Xeptors® are set incorrectly in an effort to adjust for a misaligned coin path. The coin jumps in different directions within the acceptor making it impossible for the Xeptor® to measure the diameter, thickness and metal content with the additional security and specifications wanted in today's casino market.

Model X10 & X50
X-Mark® Xeptor®
Incorrect use of personality plugs

IDX Xeptors®, by changing personality plug will electronically change to replace any CC-? Coin comparator in use today.

Murphy's Law pops up, as usual

1. The personality plug has an eight-pin socket that connects to an 8-pin plug on the main circuit board.

2. The correct way to connect the socket and plug is to mate all eight pins in the socket (personality plug) with all eight pins in the plug (on the main printed circuit board).

How the socket and plug SHOULD be mated.

```
    --------
   |  o   o  |
   |  o   o  |
   |  o   o  |
   |  o   o  |
    --------
```
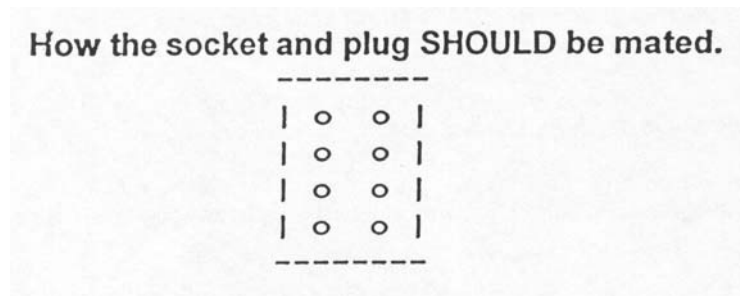
3. The incorrect way to connect the socket and plug is not to mate all eight pins in the socket (personality plug) with all eight pins in the plug (on the main printed circuit board). This will cause the unit to have to be repaired as input power is connected to the wrong pin.

How the socket and plug SHOULD NOT be mated.

```
    --------
   |         |
   |  o   o  |
   |  o   o  |
   |  o   o  |
    --------
      o   o
```
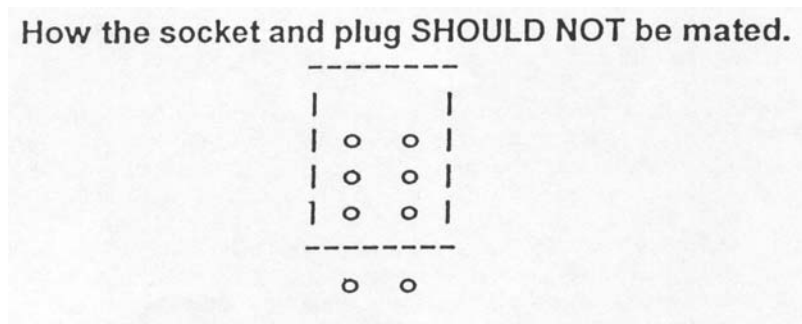
X-10 XEPTOR® COIN THICKNESS AND DIAMETER SETUP

Rev. 06/12/01 All the numbers listed below are the maximum tolerance allowed. Remember tighter is always better.
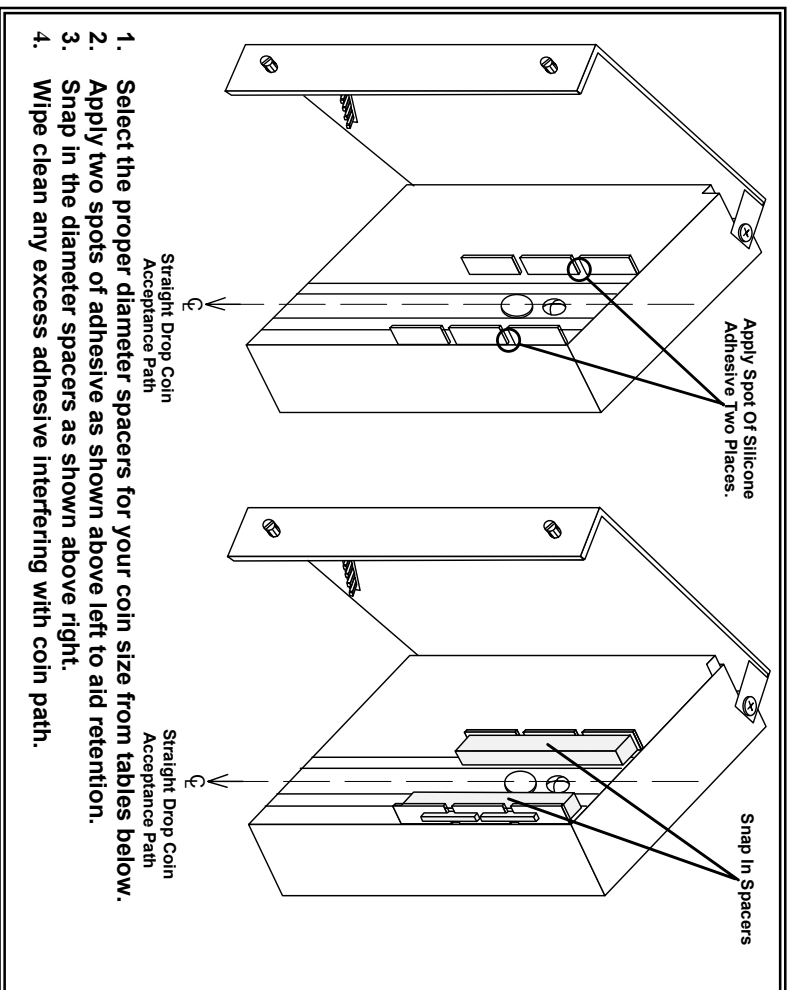
1. Select the proper diameter spacers for your coin size from tables below.
2. Apply two spots of adhesive as shown above left to aid retention.
3. Snap in the diameter spacers as shown above right.
4. Wipe clean any excess adhesive interfering with coin path.

Apply Spot Of Silicone Adhesive Two Places.

Straight Drop Coin Acceptance Path

Straight Drop Coin Acceptance Path

Snap In Spacers

1. Select the proper thickness for your coin size from tables below.
2. Move the sliding adjustment to adjust the coin chute thickness.
3. A bent tip needle nose pliers may be helpful in the adjustment.
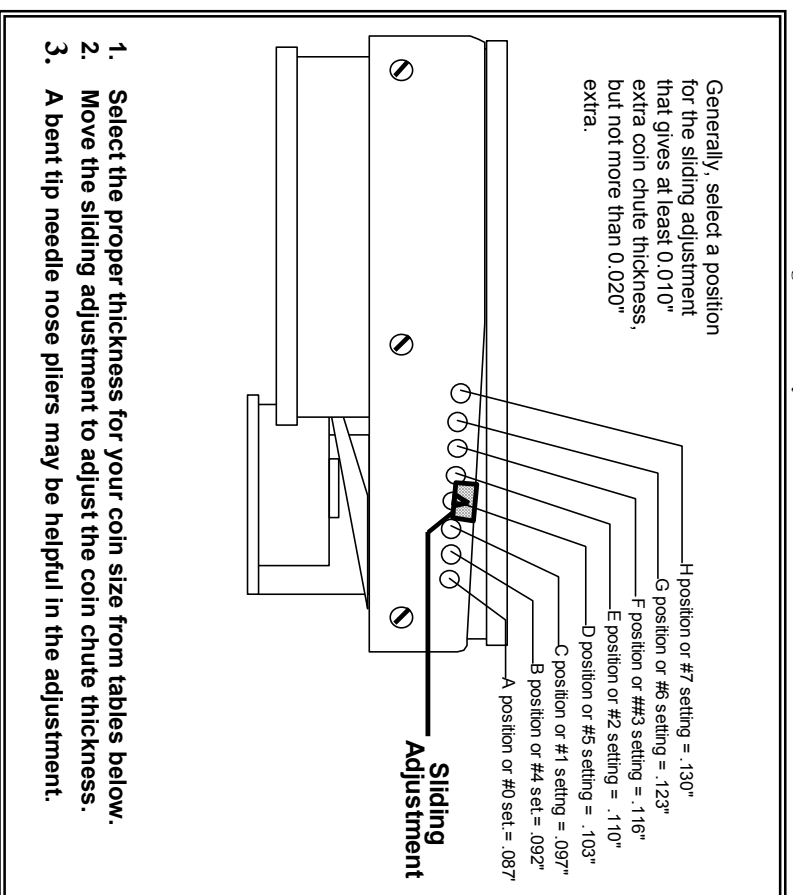
Generally, select a position for the sliding adjustment that gives at least 0.010" extra coin chute thickness, but not more than 0.020" extra.

H position or #7 setting = .130"
G position or #6 setting = .123"
F position or ##3 setting = .116"
E position or #2 setting = .110"
D position or #5 setting = .103"
C position or #1 setting = .097"
B position or #4 set. = .092"
A position or #0 set. = .087"

Sliding Adjustment

WIDTH

Spacer Use & Identification

Spacer Dash No	Max. Coin Diameter	Spacer Width
--	1.475	--
-1	1.355	0.062
-2	1.255	0.112
-3	1.130	0.175
-7	1.110	0.190
-4	1.003	0.240
-5	0.915	0.280
-6	0.875	0.300

Choose a spacer having a Max Coin Diameter slightly larger than the coin to be accepted. Poor control of coin position

Best Spacer And Thickness Choices For North American Currencies And Typical Casino Tokens

Currency	Diam x Edge	Spacer	Thick
US $.05	0.835 x 0.078	6 (5, 4)	B or #4
US $.10	0.705 x 0.053	6 (5)	A or #0
US $.25	0.955 x 0.067	4 (3, 7)	A or #0
US $.50	1.205 x 0.083	2 (1, 0)	C or #1
US $1.00	1.043 x 0.079	7 (3, 2)	C or #1
Can $.05	0.835 x 0.069	6 (5, 4)	A or #0
Can $.10	0.710 x 0.048	6 (5)	A or #0
Can $.25	0.938 x 0.062	4 (3, 7)	A or #0
Can $.50	1.068 x 0.075	2 (1, 0)	B or #4
Can $1.00	1.043 x 0.077	7 (3, 2)	C or #1
Can $2.00	1.102 x 0.071	3 (2, 1)	A or #0

X-Token	Diam x Edge	Spacer-A	Spacer-B	Thick
US $.05	0.800 x 0.067	6 (5)	6	A or #0
US $.10	0.875 x 0.067	5 (4)	5	A or #0
US $.25	0.984 x 0.067	4 (7, 3)	4	A or #0
US $0.50	1.240 x 0.080	2 (1)	2 (1)	C or #4
US $1.00	1.465 x 0.100	--	--	F or #3
US $2.00	1.340 x 0.100	1 (--)	1 (--)	F or #3
Ont. $.05	0.800 x 0.067	6 (5)	6	A or #0
Ont. $.25	0.900 x 0.067	5 (4)	5	A or #0
Ont. $.50	1.073 x 0.067	7 (3)	7 (3)	A or #0
Ont. $1.00	1.125 x 0.100	3 (2)	3 (2)	A or #0
Ont. $2.00	1.240 x 0.100	2 (1)	2 (1)	F or #3
Ont. $5.00	1.465 x 0.100	--	--	F or #3

Note: Casino token dimensions are examples of the most common in the USA and Ontario Canada (but not all gaming jurisdictions). Spacer values in parentheses indicate less than optimal selections, but which may still have an acceptably small percentage rejection. "Spacer-A" and "Spacer-B" columns are for tokens with X-Mark code locations the A (peripheral) or B (inset) bands respectively.

Model DD-1050
Token Diverter Driver
For X-10 And X-50 Multi-Coin And Encoded Token Acceptors

IDX INC
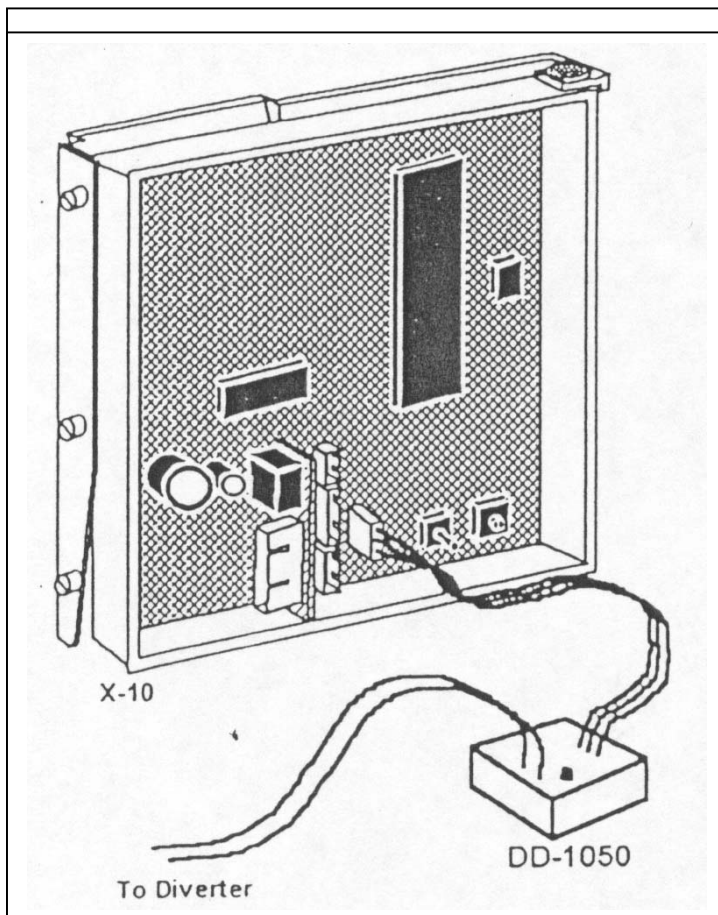
The DD-1050 Diverter Driver is an optically isolated AC/DC solid-state relay controlled through a connection to the X-10 or X-50 Xeptor® to power an external coin diverter for the purpose of sorting the end destination of two classes of accepted coins. For example, you can have your system continue to accept its standard coin type, but then in addition, you can accept a promotional token and have it always diverted to a drop vault. The Xeptor® sends a control signal to the DD-1050, which in turn is, connected an electromechanical diverter beneath the Xeptor® to control flow direction of accepted coins and tokens. The DD-1050 will work in 12VDC, 24VAC and many other voltage based systems. It will function with a dedicated diverter or in tandem with existing controls for built in "hopper full" diverters.

DD-1050 PRODUCT FEATURES
- ❖ Optically coupled AC/DC circuit drives source or sink, AC or DC diverter coils
- ❖ Output rated at 400mA 60V AC/DC
- ❖ Output is snubber protected from inductive load fly back spikes
- ❖ Direct plug connection to Xeptor® J3. (X-10 Rev-E and X-50 Rev-B or later boards)
- ❖ Two-wire connection into diverter solenoid circuit (see specific installation notes that apply)
- ❖ Diagnostic LED indicator shows when Xeptor® activates Diverter Driver

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OPERATIONS
- ❖ Of the 6 coin types that can be accepted, Xeptors® are pre-configured at the factory to activate the diverter for coin types 4, 5 and 6, but not for coin types 1, 2 and 3. This may be changed via the "C" command as detailed in the Xeptor® Serial Port Protocol document. (see also Option bits)
- ❖ When a coin types that can be accepted, there are two timers that come into effect if the coin is also to be diverted, Divert Delay, and Divert Pulse. The Xeptor® turns on the DD-1050 after waiting Divert Delay milliseconds and keeps it on for Divert Pulse milliseconds, then turns it back off. Unless specifically ordered differently, both are factory preset to zero. The optimum settings will vary with the particular diverter characteristic and its relative location. Use the "P" command as detailed in the Xeptor® Serial Port Protocol document to set values per specific installation notes that apply, or use values of 10 and 50 respectively as good starting point otherwise.

IDX INCORPORATED

09/03/02

X10 Xeptor® Suggested Spare Parts List

Quantity	IDX Part #	Part Description	Cost each
10	SW350135GS	Hex Switch	3.99
10	SWTL1105BF25	N/O Push button switch	3.00
10	X1050-3.0R	One Time Programmable Chip w/Version 3.0R Software	35.00
1	X1050-3R-NRI	One Time Programmable Chip w/Version 3.0R NRI Softward	35.00
5	LD160138-ND	Red/Green Bi-Color LED	1.95
5	ECX10FLID	Lid for X10 Front Box	2.50
10	LDOP4733	Graded Side Looker LED	1.99
10	TNSFH3095	T-1 Photo Transistor	1.50
20	TNSFH4092	T-1 IR LED	1.50
60	ECX10AA	Alignment Aperture (Optic holder)	1.00
10	ID262LY-222K	2.2mH Inductive Sensor	2.00
5	ECX10RBOX	Rear Box for X10	1.97
5	ECX10RLID	Lid for X10 Rear Box	1.50
10	LDOP5829	Graded Side Looker Photo Transistor	1.99
5	RLCBL50W	50 ohm Coil Relay for X10	14.50
5	CNSPC11142	4.0 lb Spring for X10 Front Box & Lid	1.00
5	TNZTX600B	140V 4A NPN Transistor	.95
10	ICM93C46BN6	1K 8 x 128 Serial Microware Bus EEProm	2.00
5	ECX10FBOX	Front Box for X10	2.95
5	ECX20-1	Pair of Diameter Spacers up to 1.355 Diameter (Clear)	1.85
5	ECX20-2	Pair of Diameter Spacers up to 1.255 Diameter (Black)	1.85
5	ECX20-3	Pair of Diameter Spacers up to 1.130 Diameter (Orange)	1.85
5	ECX20-4	Pair of Diameter Spacers up to 1.003 Diameter (Yellow)	1.85
5	ECX20-5	Pair of Diameter Spacers up to .915 Diameter (Green)	1.85
5	ECX20-6	Pair of Diameter Spacers up to .875 Diameter (Blue)	1.85
5	ECX20-7	Pair of Diameter Spacers up to 1.110 Diameter (Purple)	1.85
5	ECX20SPACER1	Set of # 1, 2, 3, & 4 Diameter Spacers ("up to" diameter listed above)	4.95
5	ECX20SPACER5	Set of # 2, 3, 4, & 5 Diameter Spacers ("up to" diameter listed above)	4.95
5	ECX20SPACER6	Set of # 2, 3, 4, & 6 Diameter Spacers ("up to" diameter listed above)	4.95
5	ECX20SPACER7	Set of # 2, 3, 4, & 7 Diameter Spacers ("up to" diameter listed above)	4.95
100	HT401	Threaded Stud Screw / Shoulder Holder	.10
10	MLX10STOP	X10 Thickness Clip	1.40
10	CN1.00MM66B	1.0 mm 6 Conductor Unshielded Flat Flex Ribbon Cable	2.25
20	RS18HND	18 ohm ½ watt resistor for R10	1.10
10	X-16CABLE	PP-16 Power Cable	5.00
10	X-37CABLE	PP-3337 Power Cable	5.00
2	X10-RBASSY	PCB & Parts for X10 Rear Board (Parts NOT SOLDERED on PCB. No Box or Lid)	19.95
1	X10PROCESPCB	X10 Processor Board with parts soldered on PCB (w/copper shield, No Processor Chip, Box, Lid, or Metal parts)	39.95
1	X10CAVITYPCB	X10 Cavity Board with parts soldered on PCB (w/Box, Lid, & 6 Conductor flat flex cable)	35.00

IDX INCORPORATED

09/03/02

X50 Xeptor® Suggested Spare Parts List

Quantity	IDX Part #	Part Description	Cost each
5	ICLM339N	Quad Comparator	1.20
5	SWTL1105BF25	N/O Push button Switch	3.00
5	ICPC812	NPN Optoisolator	1.30
5	X1050-3.0R	One Time Programmable Chip w/Version 3.0R Software	35.00
1	X1050-3R-NRI	One Time Programmable Chip w/Version 3.0R-NRI Software	35.00
5	LD1601038-ND	Red/Green Bi-Color LED	1.95
5	SW350135GS	Hex Switch	3.99
5	TNZTX600B	140V 4A NPN Transistor	.95
5	ICM93C46BN6	1K 8 x 128 Serial Microware Bus EEProm	2.00
60	ECX10AA	Alignment Aperture (Optic holder)	1.00
12	LDOP4733	Graded Side Looker LED	1.99
12	LDOP5829	Graded Side Looker Photo Transistor	1.99
12	ID262LY-222K	2.2 mH Inductive Sensor	2.00
6	TNSFH3095	T-1 Photo Transistor	1.50
12	THSFH4092	T-1 IR LED	1.50
6	CNM3CCA2020J	20" IDC Unshielded Cable to connect X50/70 A-Side to B-side	5.00
6	ECX10RLID	Lid for X50 Cavity Board Box	1.50
6	ECX10RBOX	Box for X50 Cavity Board	1.95
12	RLX50	50 ohm Coil Relay for X50	19.50
12	CN80097	Spring for X50 Processor Board Box & Lid	2.50
10	X-16CABLE	PP-16 Power Cable	5.00
10	X-37CABLE	PP-3337 Power Cable	5.00
10	CN1.0MM66B	6 Conductor Unshielded Flat Flex Ribbon Cable	2.25
10	CNHF08U06ND	8 Conductor Unshielded Flat Flex Ribbon Cable	3.25
1	X50/70PB&IFB	X50/70 Processor & Interface boards with parts soldered on PCB (NO Processor chip, Box, Lid, or Metal parts)	70.00
1	X5070CAV2PCB	2 Cavity Boards with parts soldered on PCB (w/Boxes & lids, 6 & 8 conductor unshielded flat flex ribbon cables)	39.95
1	MLX50STP	X50/70 Thickness Clip	2.60
1	X50/70SHLDCB	Shielded Cable for the X50 & X70	9.99
1	X50/70 BLK BOX	3.25" x 4.4" x .9" Black Box for the X50 & X70 Main Board	5.00
1	X50/70BBSDCB	Black Box & Shielded Cable combination for the X50 & X70	14.99

IDX INCORPORATED

03/08/02

DENOM	WMS P/N	IDX P/N	CODE	COIN SIZE
ARGOSY 5¢TOKEN	09-004955-012	X10C-C480605	60/120	.800 X .067
B.C.(CANADA)5¢COIN	09-004955-043	X10C-C170635	15/105	.835 X .067
ALBERTA 5¢ COIN	09-004955-042	X10C-C8B0635	30/142	.835 X .067
ONTARIO 5¢TOKEN	09-004955-023	X10C-C044635	0/60	.800 X .075
ONTARIO 5¢TOKEN	09-004955-028	X10C-C174635	15/105	.800 X .075
Windsor Commer.05tkn	09-004955-040	X10C-C6B0635	90/165	.800 X .067
ONTARIO 5¢TOKEN	09-004955-041	X10C-C7B4635	105/165	.800 X .075
ONTARIO 5¢TOKEN	09-004955-044	X10C-C8B4635	30/142	.800 X .075
MICHIGAN 5¢TOKEN	09-004955-033	X10C-C484635	60/120	.800 X .075
USA 5¢ NICKLE	09-004955-033	X10C-C484635	60/120	.835 X .078
USA 25¢ QUARTER	09-004659-033	X10C-C480435	60/120	.950 X .067
25¢ TOKEN	09-004659-033	X10C-C480435	60/120	.984 X .067
B.C. 25¢ QUARTER	09-004659-028	X10C-C170435	15/105	.940 ¢ .062
Windsor Commer .25tkn	09-004659-040	X10C-C6B0435	90/165	.986 X .070
ALBERTA 25¢QUARTER	09-004659-042	X10C-C8B0435	30/142	.940 X .062
ONTARIO 25¢TOKEN	09-004954-022	X10C-C040535	0/60	.900 X .067
ONTARIO 25¢TOKEN	09-004954-027	X10C-C170535	15/105	.900 X .067
10¢ TOKEN	09-004954-032	X10C-C480535	60/120	.875 X .065
ONTARIO 25¢TOKEN	09-004954-040	X10C-C7B0535	105/165	.900 X .067
ONTARIO 25¢TOKEN	09-004954-041	X10C-C8B0535	30/142	.900 X .067
ONTARIO 50¢TOKEN	09-004660-022	X10C-C040335	0/60	1.073 X .067
ONTARIO 50¢TOKEN	09-004660-041	X10C-C7B0335	105/165	1.073 X .067
ONTARIO 50¢TOKEN	09-004660-043	X10C-C8B0335	30/142	1.073 X .067
ONTARIO .50 TOKEN	09-005284-027	X10C-C170335	15/105	1.073 X .067
Windsor Commer.50 TOKEN	09-005284-039	X10C-C6B4A35	90/165	1.170 X .075
ONTARIO 50¢	09-005284-044	X10C-C8B4A35	30/142	1.170 X .075
UNSECURITY $ TOKEN	09-004663-011	X10C-C483005	60/120	1.465 X .101
SECURITY $ TOKEN	09-004663-032	X10C-C483035	60/120	1.465 X .101
SECURITY S.M. $TOKEN	09-004663-038	X10C-C6A3035	90/142	1.465 X .101
1ST DISABLE S.M.$TOKEN	09-004663-042	X10C-C6A3015	90/142	1.465 X .101
ONTARIO $ TOKEN	09-005184-022	X10C-C043A35	0/60	1.125 X .101
ONTARIO $ TOKEN	09-005184-027	X10C-C173A35	15/105	1.125 X .101
ONTARIO $ TOKEN	09-005184-040	X10C-C7B3A35	105/165	1.125 X .101
ONTARIO $ TOKEN	09-005184-041	X10C-C8B3A35	30/142	1.125 X .101
ONTARIO $	09-004662-044	X10C-C8B3135	30/142	1.340 X .100
ONTARIO $2 TOKEN	09-004661-022	X10C-C043235	0/60	1.240 X .101*
50¢ TOKEN	09-004661-032	X10C-C481235	60/120	1.240 X .080
ONTARIO $2 TOKEN	09-004661-040	X10C-C7B3235	105/165	1.240 X .101*
ONTARIO $2 TOKEN	09-004661-041	X10C-C8B3235	30/142	1.240 X .101*
ONTARIO $2 TOKEN	09-004661-042	X10C-C041235	0/60	1.240 X .080
ONTARIO $2 TOKEN	09-004661-043	X10C-C7B1235	105/165	1.240 X .080
ONTARIO $2 TOKEN	09-004661-044	X10C-C8B1235	30/142	1.240 X .080
ONTARIO $5 TOKEN	09-004663-022	X10C-C043035	0/60	1.465 X .101
ONTARIO $5 TOKEN	09-004663-040	X10C-C7B3035	105/165	1.465 X .101
ONTARIO $5 TOKEN	09-004663-041	X10C-C8B3035	30/142	1.465 X .101
CANADA $ COIN	09-005838-027	X10C-C171735	15/105	1.045 X .076
CANADA $ COIN	09-005838-041	X10C-C8B1735	30/142	1.045 X .076
1¢ TOKEN	09-005838-032	X10C-C480735	60/120	1.000 X .060
2¢ TOKEN	09-005184-032	X10C-C480A35	60/120	1.125 X .070
Ontario Race. $.50 tkn	09-005284-027	X10C-C170335	15/105	1.073 X .067
Casino Windsor $.50 tkn	09-005284-039	X10C-C6A4A35	90/165	1.170 X .075
Serial Port Cable	20-007268	X10199-1		

IGT P/N TO IDX P/N	rev. 09/25/02			
Coin Acceptor Model	**PROGRAMMING**	**IGT P/N**	**IDX P/N**	**COIN SIZE NOM**
Xeptors® Coded for U.S.A. Currency				
X-50 (PP3337), 60/120 6CH-SEC	$2 US	57025001	X50AIC480033	**1.342 X .101**
X-50 (PP3337), 30/142 6CH-SEC,	$500	57025002	X50AIC8B0033	**1.550 X .080**
X-10 (PPIGTDC), XM, 60/120	5CT, USA	57025890	X12C-C484638	**.835 X .077**
X-10 (PP16), XM, 60/120	5CT, USA	57025490	X12CIC484636	**.835 X .077**
X-10 (PP16), XM, 60/120	25CT, USA	57025590	X14CIC480436	**.955 X .066**
X-10 (PPIGTDC), XM, 60/120	25CT, USA	57025990	X14C-C480438	**.955 X .066**
X-10 (PPIGTDC), XM, 60/120	50CT, USA	57026090	X12C-C481238	**1.205 X .085**
X-10 (PP16), XM, 60/120	50CT, USA	57025690	X12CIC481236	**1.205 X .085**
Alberta Currency and Tokens				
X-10(PPIGTDC), XM/6CH, 30/142	25CT CND&TKN	57025900	X10C-C8B0438	**.940 X .062**
X-10(PPIGTDC), XM/6CH, 30/142	$1 CND&TKN	57025901	X10C-C8B1738	**1.043 X .077**
X-10(PPIGTDC), XM/6CH, 30/142	5 CT&TKN	57025902	X10C-C8B0638	**.835 X .067**
Xeptors® Coded for U.S.A. Tokens				
X-10(PP16), XM/6CH, 60/120	5CT TKN	57025491	X10CIC484636	**.800 X .075**
X-10(PPIGTDC), XM/6CH, 60/120	5CT TKN	57025891	X10C-C484638	**.800 X .075**
X10(PPIGTDC), XM/6CH 30/142	5CT TKN	57025892	X10C-C8B4638	**.800 X .075**
X-10(PP16), XM/6CH, 60/120	25CT TKN	57025591	X10CIC480436	**.984 X .067**
X-10(PPIGTDC), XM/6CH 60/120	25CT TKN	57025991	X10C-C480438	**.984 X .067**
X-10(PP16), XM/6CH, 60/120	50CT TKN	57025691	X10CIC481236	**1.240 X .080**
X-10(PPIGTDC), XM/6CH, 60/120	50CT TKN	57026091	X10C-C481238	**1.240 X .080**
X10 (PPIGTDC), XM/6CH 15/105	$1 TKN CAN	57026092	X10C-C173A38	**1.122 X .098**
X10 (PPIGTDC), XM/6CH 30/142	$1 TKN CAN	57026093	X10C-C8B3138	**1.340 X .100**
X-10(PPIGTDC) XM/6CH 30/142	$2 TKN	57026094	X10C-C8B1238	**1.240 X .083**
X-10(PP3337), XM/6CH, 60/120	$1 TKN	57025791	X10CIC483033	**1.465 X .101**
X-10(PPIGTDC), XM/6CH, 60/120	$1 TKN	57026191	X10C-C483038	**1.465 X .101**
X10 (PPIGTDC), XM/6CH 30/142	$1 TKN	57026192	X10C-C8B3038	**1.465 X .101**
X-10 (PPIGTDC), XM/6CH, 90/150	$1 TKN	57070003	X10C-C6A3038	**1.469 X .101**
X-10 (PP16), XM/6CH, 60/120	$2 TKN	57027390	X10CIC483136	**1.340 X .100**
X-10 (PPIGTDC), XM/6CH, 60/120	$2 TKN	57027490	X10C-C483138	**1.340 X .100**
X-50(PP3337), XM/6CH, 30/142	$5 TKN	57025191	X50AIC8B1233	**1.755 X .122**
X-50(PPIGTDC), XM/6CH, 30/142	$5 TKN	57025391	X50A-C8B1238	**1.755 X .122**
X-50(PPIGTDC), XM/6CH, 90/150	$5 TKN	57070004	X50A-C6A1238	**1.750 X .120**
X-50(PPIGTDC), XM/6CH, 30/142	$10 TKN	57026290	X50A-C8B2138	**1.700 X .135**
X-50(PP3337),XM/6CH, 30/142	$10 TKN	57026590	X50AIC8B2133	**1.700 X .135**
X-50((PPIGTDC), XM/6CH, 90/150	$10 TKN	57070000	X50A-C6A2138	**1.700 X .135**
X-50(PP3337), XM/6CH, 30/142	$25 TKN	57026691	X50AIC8B0133	**1.650 X .096**
X-50(PPIGTDC), XM/6CH, 30/142	$25 TKN	57026391	X50A-C8B0138	**1.650 X .096**
X-50(PPIGTDC), XM/6CH, 90/150	$20 TKN	57070001	X50A-C6A0238	**1.875 X .105**
X-50(PP3337), XM/6CH, 30/142	$25 TKN	57026600	X50AIC8B0233	**1.875 X .100**
X-50(PPIGTDC), XM/6CH, 30/142	$25 TKN	57026300	X50A-C8B0238	**1.875 X .100**
X-50(PP3337), XM/6CH, 30/142	$100 TKN	57025192	X54AIC8B0133	**1.600 X .080**
X-50(PPIGTDC), XM/6CH, 30/142	$100 TKN	57026491	X54A-C8B0138	**1.600 X .080**
X-50(PPIGTDC), XM/6CH, 90/150	$100 TKN	57070002	X50A-C6A0138	**1.600 X .080**
X50(PPIGTDC) XM/6CH 30/142	$500 TKN MGM	57026492	X50A-C8B0038	**1.550 X .080**
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X-10 (PP16), SM/CN-$TKN, 60/120	NO GUIDES	57028090	X15CIC483036	**GNRC-IGT ONLY**
X-10 (PP16), SM/CN-$TKN, 30/142	NO GUIDES	57028091	X15CIC8B3036	**GNRC-IGT ONLY**
X-10 (PPIGTDC), SM/CN-$TKN, 60/120	NO GUIDES	57028290	X15C-C483038	**GNRC-IGT ONLY**
X-10 (PPIGTDC), SM/CN-$TKN, 30/142	NO GUIDES	57028291	X15C-C8B3038	**GNRC-IGT ONLY**
X-50 (PPIGTDC) LARGE COIN 30/142	NO GUIDES	57028191	X55A-C8B1208	**GNRC-IGT ONLY**
X-50 (PP3337) LARGE COIN, 30/142	NO GUIDES	57028190	X55AIC8B1203	**GNRC-IGT ONLY**
Xeptors® Coded For Ontario				
X-10(PPIGTDC), XM/6CH, 30/142	5CT TKN, **X1**	57025892	X10C-C8B4638	**.800 X .075**
X-10(PPICTDC), XM/6CH 105/165	5CT TKN, **X2**	57027491	X10C-C7B4638	**.800 X .075**
X10(PPIGTDC), XM/6CH 90/165	5CT TKN **X5**	57025891	X10C-C8B4638	**.800 X .075**
X-10 (PPIGTDC), XM 6/CH, 0/60	5CT TKN, **X3**	57027492	X10C-C044638	**.800 X .075**
X-10(PPIGTDC), XM/6CH, 45/105	5CT TKN,**X6**	57025893	X10C-C374638	**.800 X .075**
X-10(PPIGTDC) XM/6CH 15/105	5CT TKN, **X4**	57025894	X10C-C170638	**.800 X .060**
X-10 (PP16), XM,0/60	5CT ONTARIO,**X3**	57027493	X10CIC044636	**.800 X .075**
X-10 (PP16), XM, 30/142	25CT ONTARIO,**X1**	57027590	X14CIC8B0536	**.900 X .067**
X-10 (PP16), XM, 105/165	25CT ONTARIO,**X2**	57027591	X14CIC7B0536	**.900 X .067**
X-10 (PP16), XM, 0/60	25CT ONTARIO,**X3**	57027592	X14CIC040536	**.900 X .067**
X-10 (PP16), XM, 105/15	25CT ONTARIO,**X4**	57027593	X14CIC170536	**.900 X .067**
X-10 (PPIGTDC), XM/6CH, 0/60	25CT TKN ,**X3**	57027594	X14C-C040538	**.900 X .067**
X-10 (PPIGTDC), XM/6CH, 30/142	25CT TKN ,**X1**	57027595	X14C-C8B0538	**.900 X .063**
X10 (PPIGTDC), XM/6CH, 105/165	25CT TKN ,**X2**	57027596	X14C-C7B0538	**.900 X .063**
X-10 (PPIGTDC), XM/6CH 15/105	25CT TKN, **X4**	57027597	X10C-C170538	**.900 X .063**
X-10 (PPIGTDC), XM/6CH 15/105	25CT CND&TKN,**X4**	57025994	X10C-C170438	**.939 X .062**
X-10 (PP16), XM, 15/105	25CT TKN-X4	57025592	X14CIC170436	**.955 X .066**
X-10 (PPIGTDC), XM/6CH 15/105	$1 CND & TKN, **X4**	57025993	X10C-C171738	**1.041 X .078**
X-10 (PP16), XM, 15/105	$1 CND & TKN	57027697	X10CIC171736	**1.043 X .077**
X-10 (PP16), XM, 30/142	50CT ONTARIO,**X1**	57027690	X10CIC8B0336	**1.073 X .067**
X-10 (PP16), XM, 105/165	50CT ONTARIO,**X2**	57027691	X10CIC7B0336	**1.073 X .067**
X-10 (PP16), XM, 0/60	50CT ONTARIO,**X3**	57027692	X10CIC040336	**1.073 X .067**
X-10 (PP16), XM, 105/15	50CT ONTARIO,**X4**	57027693	X10CIC170336	**1.073 X .067**
X-10 (PP16), XM, 45/105	50CT ONTARIO,**X6**	57027694	X10CIC370336	**1.073 X .067**
X10 (PPIGTDC), XM/6CH, 30/142	50CT ONTARIO,**X1**	57027695	X10C-C8B0338	**1.073 X .067**
X-10 (PPIGTDC), XM/6CH, 105/165	50CT ONTARIO,**X2**	57027696	X10C-C7B0338	**1.073 X .067**
X-10 (PP16), XM, 30/142	$ ONTARIO, **X1**	57027790	X10CIC8B3A36	**1.125 X .101**
X-10 (PP16), XM, 105/165	$ ONTARIO, **X2**	57027791	X10CIC7B3A36	**1.125 X .101**
X-10 (PP16), XM, 0/60	$ ONTARIO, **X3**	57027792	X10CIC043A36	**1.125 X .101**
X-10 (PP16), XM, 105/15	$ ONTARIO, **X4**	57027793	X10CIC173A36	**1.125 X .101**
X-10(PPIGTDC), XM/6CH 30/142	50CT TKN, **X1**	57025992	X10C-C8B4A38	**1.170 X .071**
X10 (PP16), XM, 30/142	$2 ONTARIO, **X1**	57027890	X10CIC8B3236	**1.240 X .101**
X-10 (PP16), XM, 105/165	$2 ONTARIO, **X2**	57027891	X10CIC7B3236	**1.240 X .101**
X-10 (PP16), XM, 0/60	$2 ONTARIO, **X3**	57027892	X10CIC043236	**1.240 X .101**
X-10 (PP16), XM, 30/142	$5 ONTARIO, **X1**	57027990	X10CIC8B3036	**1.465 X .101**
X-10 (PP16), XM, 105/165	$5 ONTARIO, **X2**	57027991	X10CIC7B3036	**1.465 X .101**
X-10 (PP16), XM, 0/60	$5 ONTARIO, **X3**	57027992	X10CIC043036	**1.465 X .101**
X-10 (PP16), XM, 105/15	$5 ONTARIO -**X4**	57027993	X10CIC173036	**1.465 X .101**
X10 (PPIGTDC), XM6CH, 105/165	$5 TKN, **X2**	57027994	X10C-C7B3038	**1.467 X .100**
X-10(PPIGTDC), XM/6CH, 15/105	$5 TKN, **X4**	57027995	X10C-C173038	**1.467 X .100**
X-50(PPIGTDC), XM/6CH 15/105	$20 TKN, **X4**	57027996	X50A-C172138	**1.700 X .136**
X-50(PPIGTDC), XM/6CH 0/60	$10 TKN **X3**	57027997	X50A-C040138	**1.650 X .096**
Xeptors® Coded for Manitoba Canada				
X-50 (PP3337),XM, 30/142	$500 MANITOBA	57035302	X51AIC8B0033	**1.55 X .080**
X-50 (PP3337), XM, 30/142	$100 MANITOBA	57035303	X53AIC8B0133	**1.60 X .080**
X-10 (PP16), XM, 30/142	$5 MANITOBA	57035304	X11CIC8B3036	**1.465 X .101**
X-10 (PPIGTDC), XM, 30/142	$5 MANITOBA, **X1**	57026192	X10C-C8B3038	**1.465 X .101**
ULTIMATE SECURITY DEVICE				
MLX10STOP		93144001		
X-KEY		93144002		
X50/70BBSDCB		62580890		

CDS PART NUMBERS

USA

TYPE	CDS P/N	IDX P/N	DENOMINATION
X10(PPCDS) 60/120	07-40174	X10C-C480639	5¢ TOKEN .800 x .075
X10(PPCDS) 60/120	07-40174	X10C-C480639	5¢ USA .835 X .078
X10(PPCDS) 60/120		X10C-C480539	25¢ TOKEN .900 x .067
X10(PPCDS) 60/120	07-40176	X10C-C480439	25¢ USA .955 X .067
X10(PPCDS) 60/120	07-40173	X10C-C481239	50¢ USA 1.205 x .086
X10(PPCDS) 60/120	07-40175	X10C-C483039	$1 USA TOKEN 1.465 x .101
X10(PPCDS) 60/120		X10C-C483139	$2 USA TOKEN 1.340 x .101

Ontario

TYPE	CDS P/N	IDX P/N	DENOMINATION
X10(PPCDS) 30/142	07-40188	X10C-C8B0639	5¢ CANADIAN COIN .835 x .069
X10(PPCDS) 30/142		X10C-C8B0639	5¢ TOKEN .800 x .075
X10(PPCDS) 105/165		X10C-C7B0639	5¢ TOKEN .800 x .075
X10(PPCDS) 0/60		X10C-C040639	5¢ TOKEN .800 x .075
X10(PPCDS) 30/142	07-40189	X10C-C8B0439	25¢ CANADIAN COIN .940 x .062
X10(PPCDS) 30/142		X10C-C8B0539	25¢ TOKEN .900 x .067
X10(PPCDS) 105/165		X10C-C7B0539	25¢ TOKEN .900 x .067
X10(PPCDS) 0/60		X10C-C040539	25¢ TOKEN .900 x .067
X10(PPCDS) 30/142		X10C-C8B0339	50¢ TOKEN 1.073 x .067
X10(PPCDS) 105/165		X10C-C7B0339	50¢ TOKEN 1.073 x .067
X10(PPCDS) 0/60		X10C-C040339	50¢ TOKEN 1.073 x .067
X10(PPCDS) 30/142		X10C-C8B3A39	$1 TOKEN 1.125 x .101
X10(PPCDS) 105/165		X10C-C7B3A39	$1 TOKEN 1.125 x .101
X10(PPCDS) 0/60		X10C-C043A39	$1 TOKEN 1.125 x .101
X10(PPCDS) 30/142		X10C-C8B3239	$2 TOKEN 1.240 x .101
X10(PPCDS) 105/165		X10C-C7B3239	$2 TOKEN 1.240 x .101
X10(PPCDS) 0/60		X10C-C043239	$2 TOKEN 1.240 x .101
X10(PPCDS) 30/142		X10C-C8B3039	$5 TOKEN 1.465 x .101
X10(PPCDS) 105/165		X10C-C7B3039	$5 TOKEN 1.465 x .101
X10(PPCDS) 0/60		X10C-C043039	$5 TOKEN 1.465 x .101

Manitoba

TYPE	CDS P/N	IDX P/N	DENOMINATION
X10(PPCDS) 30/142	07-40188	X10C-C8B0639	5¢ CANADIAN .835 x .069
X10(PPCDS) 30/142	07-40189	X10C-C8B0439	25¢ CANADIAN .940 x .062
X10(PPCDS) 30/142		X10C-C8B1739	$1 LOONEY 1.043 x .077
X10(PPCDS) 30/142		X10C-C8B0739	$2 TOONEY 1.102 x .071
X10(PPCDS) 30/142		X10C-C8B3039	$5 TOKEN 1.465 x .101
X50(PPCDS) 30/142		X50A-C8B0139	$100 TOKEN 1.600 x .080
X50(PPCDS) 30/142		X50A-C8B0039	$500 TOKEN 1.550 x .080

IDX INCORPORATED

05/25/01

CASINO NUMBER	CASINO NAME	ANGLE CODE
*1	GREAT BLUE HERON	15/105
*2	SAULT STE MARIE	0/60
*2	BRANTFORD	0/0
*2	POINT EDWARD	0/60
*2	THUNDER BAY	0/0
*3	HIAWATHA	30/142
*3	MOHAWK	30/30
*3	FORT ERIE	142/142
*3	WESTERN FAIR	30/142
*3	RIDEAU CARLETON	142/142
*3	WOODBINE	30/30
*3	FLAMBORO DOWNS	30/142
*4	SUDBURY DOWNS	105/165
*4	KAWARTHA DOWNS	105/105

SELECTING THE PROPER PART NUMBER
1 DETERMINE JURISDICTION

1a IF THE JURISDICTION IS CANADA
REFER TO THE CASINOS SHOWN LEFT
AND DETERMINE THE CASINO NUMBER.

1b IF THE JURIDSICTION IS U.S. USE
THE CHART FROM BELOW TO SELECT
FROM.

2 CROSS REF. THE CASINO NUMBER
WITH THE DENOM. FOR THE CORRECT
PART NUMBER FOR CANADA.
USE THE CHART BELOW.

SIGMA PARTS

REFERENCE CHART FOR IDX INFORMATION

DENOM.	TYPE COIN	JURISD.	ANGE	IDX PT. NO.	SGI PT. NO.	COIN DIM.	PLAT FORM	CASINO NO.
0.05	US NICKLE	US	60/120	X10C-C48463A	590082	.834X.078	SG-88	
0.05	CAN TOKEN	CANADA	15/105	X10C-C17463A	590092	.800X.075	SG-88	*1
0.05	CAN TOKEN	CANADA	0/60	X10C-C04463A	590093	.800X.075	SG-88	*2
0.05	CAN TOKEN	CANADA	30/142	X10C-C8B463A	590094	.800X.075	SG-88	*3
0.05	CAN TOKEN	CANADA	105/165	X10C-C7B463A	590095	.800X.075	SG-88	*4
0.25	CAN QUARTER	CANADA	15/105	X10C-C17043A	590131	.940X.062	SG-88	
0.25	US QUARTER	US	60/120	X10C-C48043A	590078	.950X.069	SG-88	
0.25	CAN TOKEN	CANADA	15/105	X10C-C17053A	590096	.900X.067	SG-88	*1
0.25	CAN TOKEN	CANADA	0/60	X10C-C04053A	590097	.900X.067	SG-88	*2
0.25	CAN TOKEN	CANADA	30/142	X10C-C8B053A	590098	.900X.067	SG-88	*3
0.25	CAN TOKEN	CANADA	105/165	X10C-C7B053A	590099	.900X.067	SG-88	*4
0.50	USA ½ DOLLAR	US	60/120	X10C-C48123A	590127	1.205X.085	SG-88	
$1.00	US TOKEN	US	60/120	X10C-C48303A	590079	1.465X.101	SG-88	
$1.00	CAN TOKEN	CANADA	15/105	X10C-C173A3A	590100	1.125X.101	SG-88	*1
$1.00	CAN TOKEN	CANADA	0/60	X10C-C043A3A	590103	1.125X.101	SG-88	*2
$1.00	CAN TOKEN	CANADA	30/142	X10C-C8B3A3A	590101	1.125X.101	SG-88	*3
$1.00	CAN TOKEN	CANADA	105/165	X10C-C7B3A3A	590102	1.125X.101	SG-88	*4
$1.00	CAN TOKEN	CANADA	30/30	X10C-C8B313A	590125	1.340X.100	SG-88	*3
$5.00	US TOKEN	US	30/142	X70A-C8B123A	590080	1.755X.122	SG-88	
$5.00	CAN TOKEN	CANADA	15/105	X10C-C17303A	590104	1.465X.101	SG-88	*1
$5.00	CAN TOKEN	CANADA	0/60	X10C-C04303A	590105	1.465X.101	SG-88	*2
$5.00	CAN TOKEN	CANADA	30/142	X10C-C8B303A	590106	1.465X.101	SG-88	*3
$5.00	CAN TOKEN	CANADA	105/165	X10C-C7B303A	590107	1.465X.101	SG-88	*4
0.05	US NICKLE	US	60/120	X10CSC484634	590081	.834X.078	DALLAS	
0.05	CAN TOKEN	CANADA	15/105	X10CSC174634	590108	.800X0.75	DALLAS	*1
0.05	CAN TOKEN	CANADA	0/60	X10CSC044634	590109	.800X0.75	DALLAS	*2
0.05	CAN TOKEN	CANADA	30/142	X10CSC8B4634	590110	.800X0.75	DALLAS	*3
0.05	CAN TOKEN	CANADA	105/165	X10CSC7B4634	590111	.800X0.75	DALLAS	*4
0.25	US QUARTER	US	60/120	X10CSC480434	590075	.950X.069	DALLAS	
0.25	CAN TOKEN	CANADA	15/105	X10CSC170534	590112	.900X.067	DALLAS	*1
0.25	CAN TOKEN	CANADA	0/60	X10CSC040534	590113	.900X.067	DALLAS	*2
0.25	CAN TOKEN	CANADA	30/142	X10CSC8B0534	590114	.900X.067	DALLAS	*3
0.25	CAN TOKEN	CANADA	105/165	X10CSC7B0534	590115	.900X.067	DALLAS	*4
$1.00	US TOKEN	US	60/120	X10CSC483034	590076	1.465X.101	DALLAS	
$1.00	CAN TOKEN	CANADA	15/105	X10CSC173A34	590116	1.125X.101	DALLAS	*1
$1.00	CAN TOKEN	CANADA	0/60	X10CSC043A34	590117	1.125X.101	DALLAS	*2
$1.00	CAN TOKEN	CANADA	30/142	X10CSC8B3A34	590118	1.125X.101	DALLAS	*3
$1.00	CAN TOKEN	CANADA	105/165	X10CSC7B3A34	590119	1.125X.101	DALLAS	*4
$5.00	US TOKEN	US	30/142	X70ASC8B1234	590077	1.755X.122	DALLAS	
$5.00	CAN TOKEN	CANADA	15/105	X10CSC173034	590120	1.465X.101	DALLAS	*1
$5.00	CAN TOKEN	CANADA	0/60	X10CSC043034	590121	1.465X.101	DALLAS	*2
$5.00	CAN TOKEN	CANADA	30/142	X10CSC8B3034	590122	1.465X.101	DALLAS	*3
$5.00	CAN TOKEN	CANADA	105/165	X10CSC7B3034	590123	1.465X.101	DALLAS	*4

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SILICON GAMING PART NUMBERS

SILICON P/N	IDX P/N	CODE	DENOMINATION
510-0069-0	X10C-C480636	60/120	5¢ USA COIN .835 X .078
510-0125-0	X10C-C480436	60/120	25¢ USA COIN .955 X .067
510-0126-0	X10C-C483033	60/120	$1.00 USA TOKEN 1.465 X .100

ATRONICS

ATRONIC P/N	IDX P/N	CODE	DENOMINATION
65012186	X10CAC484636	60/120	5¢USA COIN .835X.078
65011005	X10CAC480436	60/120	25¢USA COIN .955X.067
65022268	X10CAC481236	60/120	$0.50 USA Coin 1.205 x .086
65012252	X10CAC483036	60/120	$1.00USA TOKEN 1.465X.100

KONAMI

KONAMI P/N	IDX P/N	CODE	DENOMINATION
530075	X10C-C484631	60/120	5¢ USA COIN .835 X.078
530076	X10C-C480431	60/120	25¢ USA COIN .955 X .067

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INNOVATIVE GAMING CORPORATION OF AMERICA
(IGCA)

DESCRIPTION	IGCA P/N	IDX P/N	CODE	DENOMINATION
USA 5¢ COIN	65200020	X10C-C484634	60/120	.835 X .078
USA 5¢ TOKEN	65200020	X10C-C484634	60/120	.800 X .075

MIKOHN GAMING

DESCRIPTION	MIKOHN P/N	IDX P/N	CODE	DENOMINATION
CANADA .5¢ TOKEN	155-006-20	X10CSC8B4634	30/142	.800 X .075
USA $ 0.05 TOKEN	155-006-40	X10CSC484634	60/120	.800 X .075
ONTARIO $1 TOKEN	155-004-20	X10C-C043A36	0/60	1.125 X .101
ONTARIO $1 TOKEN	155-004-40	X10C-C043A33	0/60	1.125 X .101
ONTARIO $1 TOKEN	155-004-30	X10C-C8B3A33	30/142	1.125 X .101
CANADIAN LOONEY	155-004-50	X10C-C8B1733	30/142	1.043 X .077
CANADIAN LOONEY	155-004-60	X10C-C171733	15/105	1.043 X .077
USA $1 TOKEN	155-004-70	X10CIC483033	60/120	1.465 X .101
USA $2 TOKEN	155-004-80	X10CIC483133	60/120	1.340 X .101
CANADIAN $2TOONEY	155-004-90	X10CIC174A33	15/105	1.102 X .071

HIAWATHA, MOHAWK AND FORT ERIE/ONTARIO $2.00 TOKEN ARE 1.240 X .101

BRITISH COLUMBIA	15/105	CODE 17	ONTARIO	15/105	CODE 17
SASKATCHEWAN	15/105	CODE 17	ONTARIO	0/60	CODE 04
QUEBEC	15/105	CODE 17	ONTARIO	30/142	CODE 8B
ALBERTA	30/142	CODE 8B	ONTARIO	105/165	CODE 7B
MANITOBA	30/142	CODE 8B			