Doc. 6001200
Rev. B

INSTALLATION INSTRUCTIONS FOR THE CLIKCARD COMMERCIAL RECEIVER (NARROW BAND)

Sentexsystems

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INSTALLATION
FOR
INFINITY AND PROCARD

PULLING CABLE

Pull one cable to the receiver: an 18 to 24 awg, 5-conductor shielded cable that runs to the access control system (either the PROcard or Infinity system can be used).

NOTE: The maximum allowable cabling distance is 500 feet.

MOUNTING THE CABINET

METAL CABINET

1. Determine which of the two openings into the box (back or bottom) will be used to run wires into the cabinet. If possible, use the back opening since it provides better protection against vandalism. If this is not possible, run the wires through 1/2 inch conduit into the bottom opening of the cabinet.

2. Remove the circuit board and metal mounting plate from the unit by removing the screw and solder lug that holds the upper right corner and releasing the metal mounting plate from the plastic stand-off that holds the lower right corner. Also, carefully disconnect the 90-degree cable adapter from the connector at the top-right edge of the board.

   Discharge any static electricity you may have built up before handling the board.

3. Carefully remove the knockout plug from the opening to be used.

4. Mount the unit securely. Mounting hardware is provided if you are using Sentex's pedestal mount post. Pull the cables described above into the cabinet, remount the circuit board and metal mounting plate, and then reconnect the 90-degree adapter to the connector at the top-right edge of the board.

PLASTIC CABINET

NOTE: The plastic cabinet is not weatherproof, and *must be mounted in a covered area.*

1. Mount the cabinet to a flat surface with three appropriate-type screws (not supplied).

   NOTE: If the receiver-mounted whip antenna (included) is to be used, make sure that the chosen location does not place the whip antenna close to a metallic beam or surface. Metal next to the length of the antenna will reduce the range of reception.

2. Thread the whip antenna connector onto the connector that protrudes from the top-right side of the cabinet.

MAKING CONNECTIONS TO INFINITY

SIGNAL CONNECTIONS

1. Remove the 6 pin connector from the ClikCard Commercial Receiver.
2. Connect the wires to the 6 pin connector according to the following color scheme if possible. (See figure 1.)

TERMINAL ON CLIKCARD COMMERCIAL RECEIVER	WIRE COLOR
EARTH	SHIELD
GND	BLACK
+12 VDC	RED
DATA 0	GREEN
DATA 1	WHITE
LED	BROWN

3. Connect the other end of the cable to the Infinity system, following the installation instructions included with that system.
4. The ClikCard Commercial Receiver contains a number of static sensitive components which can be damaged or destroyed by static discharge. This type of damage is not covered under Sentex's warranty. A proper earth ground connected to the system's chassis will significantly reduce the chances of damage or improper operation. The solder lug connection is the point where connection to ground should be made.

   To be effective, the ground connection should be made by running 12 awg copper wire from the solder lug to a ground point within 12 feet of the system. This ground point must be at an electrical panel, at a metallic cold-water pipe that runs into the earth, or at a grounding rod at least 10 feet in length that is driven into the earth.
5. Attach the antenna provided with the receiver (it is taped into the top piece of foam in the shipping carton) to the connector on the top of the receiver. Make sure that the protective jacket is pulled down over the connector when you are finished.

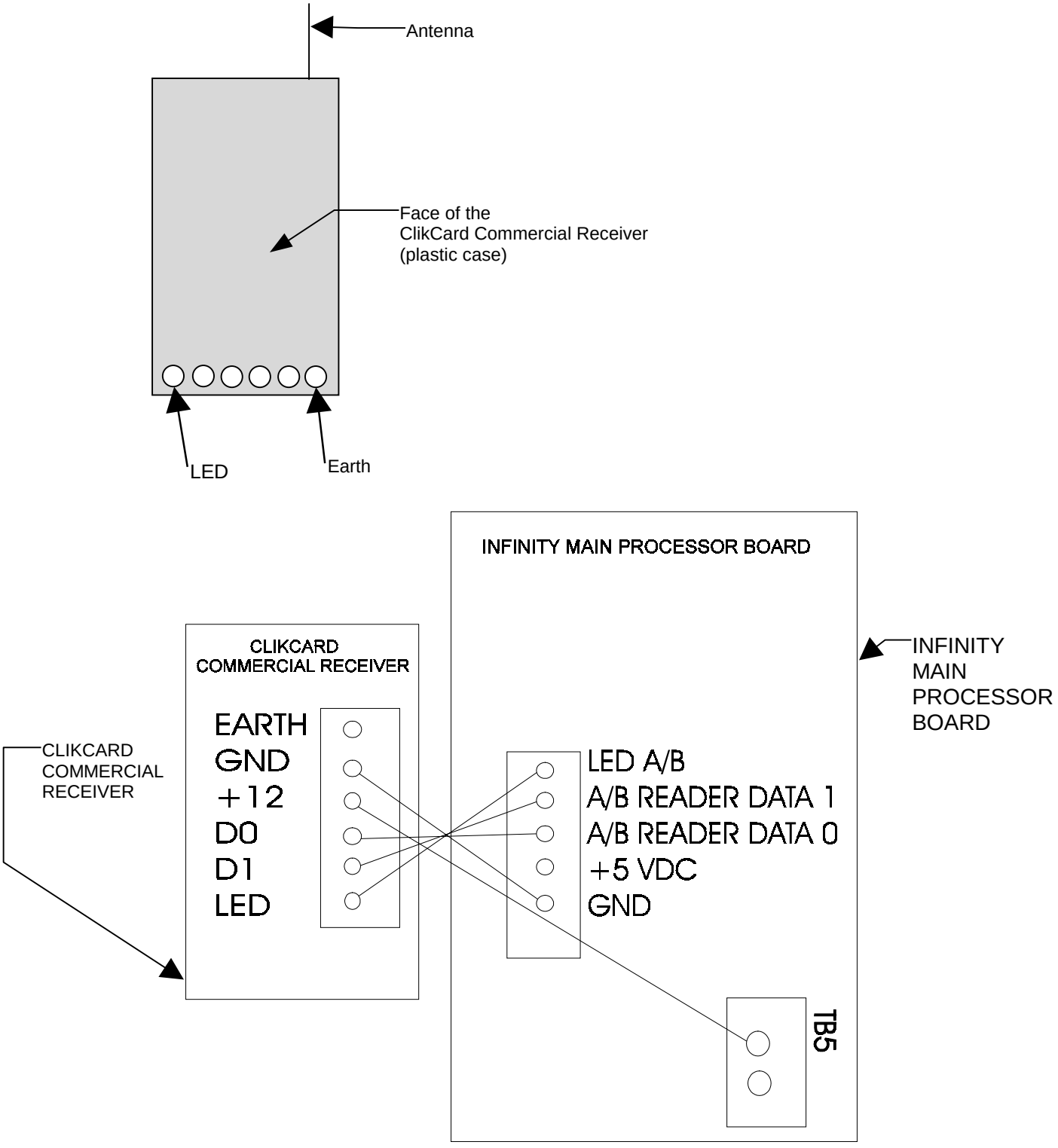


FIGURE 1
SIGNAL CONNECTIONS FOR CLIKCARD COMMERCIAL RECEIVER AND INFINITY MAIN PROCESSOR BOARD

MAKING CONNECTIONS TO PROcard SYSTEM

DC POWER

With the PROcard System power on, measure the voltage between pin 8 and pin 7. Be sure it is in the range of 11.5 to 16.5 VDC. Turn off the power to the PROcard System.

SIGNAL CONNECTIONS

IMPORTANT NOTE

The Commercial Receiver board requires +12VDC instead of +5 VDC, so you will need to determine if your Bottom Board has the letter "V" following the serial number in the upper right-hand corner of the board. If it does not, the card reader system will not operate properly, and you need to contact Sentex to obtain a special model of the Bottom Board which will emit +12 VDC from terminals 11 and 12.

1. Connect the Commercial Receiver cable to the PROcard, according to the following color scheme if possible, and reinstall it on the terminal block pins. (See figure 2.)

TERMINAL ON ClikCard RECEIVER	WIRE COLOR	CARD READER 1	CARD READER 2
EARTH	SHIELD		
GND	BLACK	Pin 7	Pin 11
+12 VDC	RED	Pin 8	Pin 12
DATA 0	GREEN	Pin 5	Pin 9
DATA 1	WHITE	Pin 6	Pin 10
LED	BROWN	No Connection	No Connection

3. Connect the other end of the cable to the PROcard, follow the installation instructions included with that system.

4. The ClikCard Commercial Receiver contains a number of static sensitive components which can be damaged or destroyed by static discharge. This type of damage is not covered under Sentex's warranty. A proper earth ground connected to the system's chassis will significantly reduce the chances of damage or improper operation. The ground lug connection is the point where connection to ground should be made.

   To be effective, the ground connection should be made by running 12 awg copper wire from the solder lug to a ground point within 12 feet of the system. This ground point must be at an electrical panel, at a metallic cold-water pipe that runs into the earth, or at a grounding rod at least 10 feet in length that is driven into the earth.

5. Attach the antenna provided with the receiver (it is taped into the top piece of foam in the shipping carton) to the connector on the top of the receiver. Make sure that the protective jacket is pulled down over the connector when you are finished.

6. Turn on the power to the PROcard System.

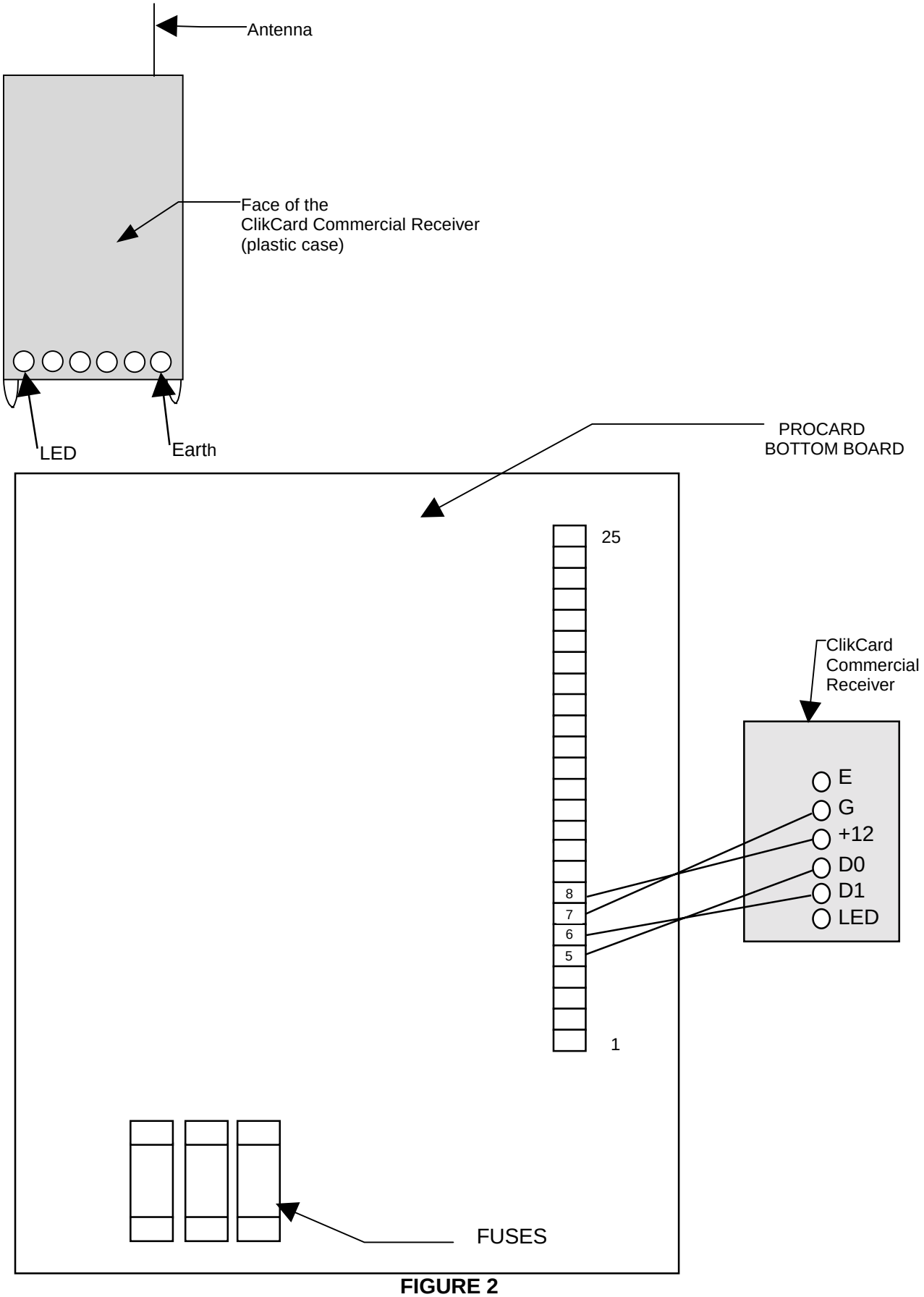


FIGURE 2
SIGNAL CONNECTIONS FOR CLIKCARD COMMERCIAL RECEIVER AND PROCARD BOTTOM BOARD

SETTING THE CLIKCARD BUTTONS

A ClikCard commercial receiver comes from the factory set to process (and pass on to the access control system) the transmission from a single-button transmitter. The factory setting (switches 1 and 2 on the DIP switch located in the middle of the circuit board set to the "off" position) will also cause the receiver to process the transmission generated by pressing the left button on the two-button transmitter. To have the receiver process the transmission generated by pressing the right button or both buttons on a two-button transmitter, set switches 1 and 2 as shown below:

BUTTON	SWITCH #	
	1	**2**
Right button on two-button transmitter	On	Off
Both buttons on two-button transmitter	Off	On
Left button on two-button transmitter	Off	Off
Single-button transmitter	Off	Off

NOTE: A receiver can process only one type of transmission from a two-button transmitter. Thus, if you set switch 1 to "on" and switch 2 to "off", the receiver will process the transmission generated by pressing the right button of a two-button transmitter. With the switches set in this manner, the receiver will ignore transmissions caused by pressing the left button or both buttons at the same time. The receiver will also ignore transmissions generated by a single-button transmitter. Similarly, with the switches left "off", the receiver will ignore transmission from pressing the right button or both buttons at the same time. *If both switches are set to "on", the receiver will ignore all transmissions.*

TESTING THE RECEIVER

Test the receiver in the following way:

1. Connect the receiver to the access control system and apply power. Press the button on the ClikCard transmitter.

   Successful results - The green “valid” LED illuminates on the receiver, indicating that the receiver transmitted the signal to the access control system (Infinity or PROcard).

2. Program the transmitter’s I.D. number and the Facility Code into the access control system and press the button on the ClikCard transmitter.

   Successful results - The green “granted” LED illuminates on the receiver, indicating that the receiver has transmitted the data; the data was received by the access control system; the data has been validated by the access control system; and the access control system has granted access.

   Note: The PROcard does not illuminate this LED.

3. When the first two steps have successful results, it indicates that the receiver is working correctly.

TROUBLESHOOTING

The following troubleshooting aids provide:

- an explanation of the Facility Code (FC) translation procedure
- a description of how to use switch 3
- a description of how to verify the FC in the Infinity and on the ClikCard
- a diagram of the LED's and switches
- an explanation of the ClikCard label
- an explanation of the various illumination combinations

FC TRANSLATION

The Commercial Receiver has the ability to translate Facility Codes. The Commercial Receiver replaces the transmitter's Facility Code with a different FC. When this situation is present, the Facility Code flag in the receiver will be factory set to "enabled." The Facility Code is set in the Infinity programming step 24 and it can be verified in step 22-7.

The FC target value in the receiver must be the same as the Facility Code in the Infinity. This can be determined by the following switch 3 test.

SWITCH 3 TEST

Switch 3 on the Commercial Receiver unit together with the Infinity Transaction Report can be helpful in troubleshooting.

When switch 3 is turned to the "on" position, eight transactions are recorded in the Infinity Transaction Buffer. Each transaction contains the date, the time, and the reader number. The user code field of each transaction displays the following data:

INFINITY TRANSACTION REPORT

USER CODE FIELD	KEY
XXX	OEM Value
255	OEM Check Flag
XXX	FC Target
XXX	FC Source 2*
XXX	FC Source 1*
255	FC Translation Flag
1	**
30	**

*Either FC Source 1 or FC Source 2 must match the Transmitter.
1 = format, 30 = bit number. **NOTE: Starting with firmware version 1.02, the bit number 30 indicates that both 26 and 30 bit formats are supported.

If the FC Translation Flag equals 255, refer to the transmitter label for the Facility Code.

Turn switch 3 to the "off" position when completed.

CODE VERIFICATION

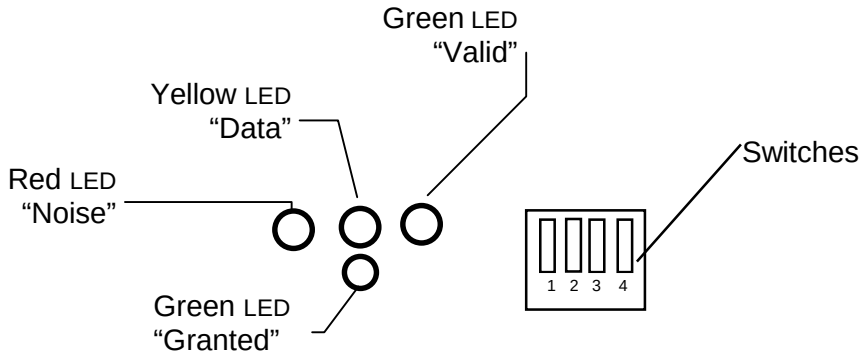
Verify and change the Facility Code in the Infinity

To verify the Facility Code set in the Infinity, access step 22-7 in the Infinity program mode.

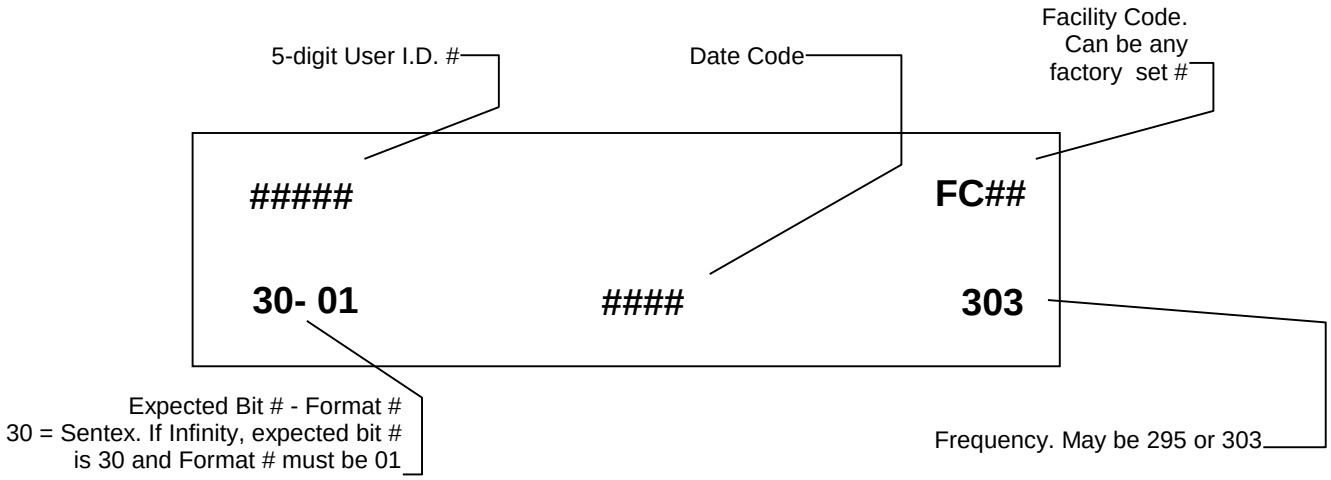
To change the Facility Code in the Infinity, access step 24.

Verify the Facility Code on the ClikCard

To verify the Facility Code on the ClikCard transmitter, refer to the 2-digit number following the letters FC on the transmitter label found on the back of the ClikCard.



LED'S AND SWITCHES



TRANSMITTER LABEL

NOTE: Starting with firmware version 1.02, both 26 and 30 bit formats are supported, so a 26-00 transmitter will also work with this receiver.

READING THE LED'S

The illumination of one LED (or a combination of LED'S) provides information relating to the activity of the Commercial Receiver. The information provided could signify that the Receiver is working as expected or that there is a need to troubleshoot and adjust the unit.

Red Noise LED Is On

When the red LED is on, it indicates that there is "Noise", or electro-magnetic interference. Almost all installations will have some noise, but as long as the other LED's light, noise is not a major problem. However, if only the red LED lights, the receiver may have very limited range. If this occurs, it is necessary to identify the interference and eliminate it. Common sources of interference are fluorescent lights, neon signs, mercury vapor lamps, arc welders and arcing power lines. Interference due to lighting can be limited by having an electrician wire a noise suppresser into the lamp circuit. Call your local power company if interference is due to arcing power lines.

Yellow Data LED Is On, Green Valid LED Is On

When the ClikCard button is pressed, and:

- if the yellow data LED goes on, it indicates that the receiver is receiving the transmission from the ClikCard.
- if the green valid LED goes on, it indicates that the receiver is transmitting data to the Infinity.

Yellow Data LED Is On, Green Valid LED Is Off

When the ClikCard button is pressed, and the yellow data LED goes on but the green valid LED does not go on, it is an indication that the receiver is receiving the transmission from the ClikCard but not transmitting data to the Infinity. If this occurs, it could indicate one of the following situations:

- The transmitter could be the wrong type. Use a Sentex ClikCard 30-01 or 26-00.
- Switches 1 and 2 could be configured for the wrong button on the ClikCard. Refer to the directions earlier in this manual to correct the problem.
- If the Facility Code translation flag is not 255 (enabled) on the Infinity transaction report, it could be an indication that the Commercial Receiver unit is configured to receive a different Facility Code(s) than the code(s) it is receiving.
- If the OEM check flag is not 255 (enabled) on the Infinity transaction report, it could be an indication that the receiver is not receiving the correct OEM code.

Green Valid LED Is On, Green Granted LED Is Off

When the ClikCard button is pressed, and the green valid LED goes on but the green granted LED does not go on, it could be an indication of:

- an incorrect Facility Code set in the Infinity - Refer to the Infinity transaction report.
- a transmitter type discrepancy - Refer to the transmitter.
- a wiring problem - Refer to the beginning of this manual.
- If this is a 26 bit card, make sure Infinity step 22-8 indicates 26 bit cards are enabled.

Note: The PROcard does not illuminate this LED.

FCC REQUIREMENTS

RADIO FREQUENCY

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful: “How to Identify and Resolve Interference Problems”. This booklet is available from the United States Government Printing Office. Washington, D.C., 20402. Stock No. 004-000-00345-4.