



The AppleLogic website - devoted to preserving the brilliant hardware designs of retired Apple systems.

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Trackstar

The Apple II Clone inside an IBM PC

By 1985 the Apple II had continued to gain greater popularity in the personal computing market. However the 16 bit IBM PC which had grown over the past four years to become a popular system, which may have enjoyed an entry into the market of a large number of South East Asian companies producing competitive pricing. As a result, several companies entered into a niche market of developing compatibility on a PC. One of the first and maybe more popular cards was the Diamond System built on an ISA or MCA based IBM PC expansion card and brought to the PC full Apple II which model of card you bought, would depend on which Apple system you would be copying. It eventually produced four models of the Trackstar card.

Model	Emulates	Interface	RAM	Price
TrackStar	Apple II+	8-bit ISA	64K	\$199
TrackStar 128	Apple II+	8-bit ISA	128K	\$249
TrackStar Plus	Apple II+	8-bit ISA and MCA	128K	\$299
Trackstar E	Apple IIe	8-bit ISA	128K	\$349



The primary reason we look at the Trackstar board in relation to the soft Apple FPGA is pure emulation. The Trackstar card is in essence an Apple Clone with some extra fancy logic to pass Apple II data in a format both the PC and its peripherals can understand. One of the design characteristics is the fact that it has two 65C02 processors, which may have broken Apple compatibility through emulation. The designers put in a solid effort to not only create a card that could enable full compatibility up to an Apple IIe using just standard PAL's and GAL's. For most of the time, the preferred approach was to use a PAL or GAL as they were the preferred approach. It is these characteristics of the design that make it interesting. The photos below were provided by a work colleague who once owned one of these cards. He is grateful he took some quality pictures of the board for his ebay auction, as they give a good view of what the card comprises of. Hopefully over time, we may be able to get our hands on some schematics and the meantime, it makes a great example of how far the Apple clones made their way into other markets.

Trackstar is an example of a technology that was applicable to the era it was conceived in. Between the Apple and IBM camps, the design was susceptible to going out of date very quickly. As both IBM and Apple went in different directions, the usefulness of the card diminished. IBM left ISA and DOS and Apple went to Macintosh. Trackstar is a very interesting design, it is not the sort of thing that would have any benefit in the modern era.

locate an historic PC that had all the right characteristics to enable it. As an example of two sy primarily because it is expected that future FPGA based designs will be configured as "many old 8 bit systems to prove the concept. However this time, the concept will be structured ar One that allows truly independent upgradable faithful copies to co-exist within a single devi the FPGA to provide bridging and exchange services between each of the complete systems ar

